

MOTOR AGE

A CHILTON PUBLICATION

FEBRUARY 1961

SPEEDOMETER



Vital Methods to Help YOU Sell Service

THE FUNDAMENTALS OF TIRE AND VALVE SERVICE page 44

MANAGEMENT IDEAS FOR THE SERVICE DEPARTMENT page 47

MERCHANDISING IDEAS FOR SUCCESSFUL SELLING page 60

WIN

one of 94 FREE TRIPS

Indianapolis "500"

**\$50,000.00 PERFECT
CIRCLE CONTEST**

SPECIAL GRAND PRIZES



TWO 1961 THUNDERBIRDS
Twins of the 1961 Pace Car

It's easy and fun to enter...just predict the qualification speed of the pole position winner in the 1961 Speedway time trials!

Plan now to live it up like a king this year at the Indianapolis Speedway Classic! You'll get the full red carpet treatment with a first class round trip by air. Four enjoyable days . . . hotel accommodations and meals—a special tour—and \$50.00 pocket money. If you are a winner you may bring any male employee of your Perfect Circle supplier as a guest. And all winners and guests who make the trip automatically qualify for the grand prize Thunderbird drawings. All you need do is estimate the winning pole position speed in the qualifying time trials and send it in with a PC box part number tab.

You compete only with entrants in your area and you may enter many times. Contest ends April 30, 1961 so enter early—enter often. Complete contest rules are on the official entry form—get one at your PC supplier and test your skill today!

HURRY! HURRY!



Contest ends April 30!

PERFECT CIRCLE

PISTON RINGS • POWER SERVICE PRODUCTS

Hagerstown, Indiana

ANOTHER BLUE STREAK
SECRET SERVICE TIP FOR YOU.

SHERLOCK MCKANICK and MIKE

"The Case of the
MISSING LEAK"



THE VACUUM SPARK ADVANCE
OPERATES OFF THE INTAKE
MANIFOLD AND, BY TURNING THE
BREAKER PLATE ON **THIS**
DISTRIBUTOR, MAKES THE
POINTS OPEN AND CLOSE
EARLIER. LOOK AT THIS
BULLETIN!

OF COURSE, AS THE ENGINE
SPEEDS UP, THE SPARK IS
AUTOMATICALLY ADVANCED
THROUGH THIS LINKAGE!

AND AN ADVANCED
SPARK MAKES FOR
MORE COMPLETE
GASOLINE COMBUSTION
...**BETTER GAS
MILEAGE!**

GEE! **BLUE STREAK
BULLETIN #102**
SURE MAKES THE
WHOLE SYSTEM
EASY TO
UNDERSTAND.



MECHANICS: GET YOUR **FREE** COPY. WRITE
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37-18 NORTHERN BLVD., LONG ISLAND CITY 1, N.Y.



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HEAVY-DUTY
IGNITION LINE



REGULATORS • SWITCHES • COILS • CONDENSERS • CONTACT POINTS • WIRE AND CABLE

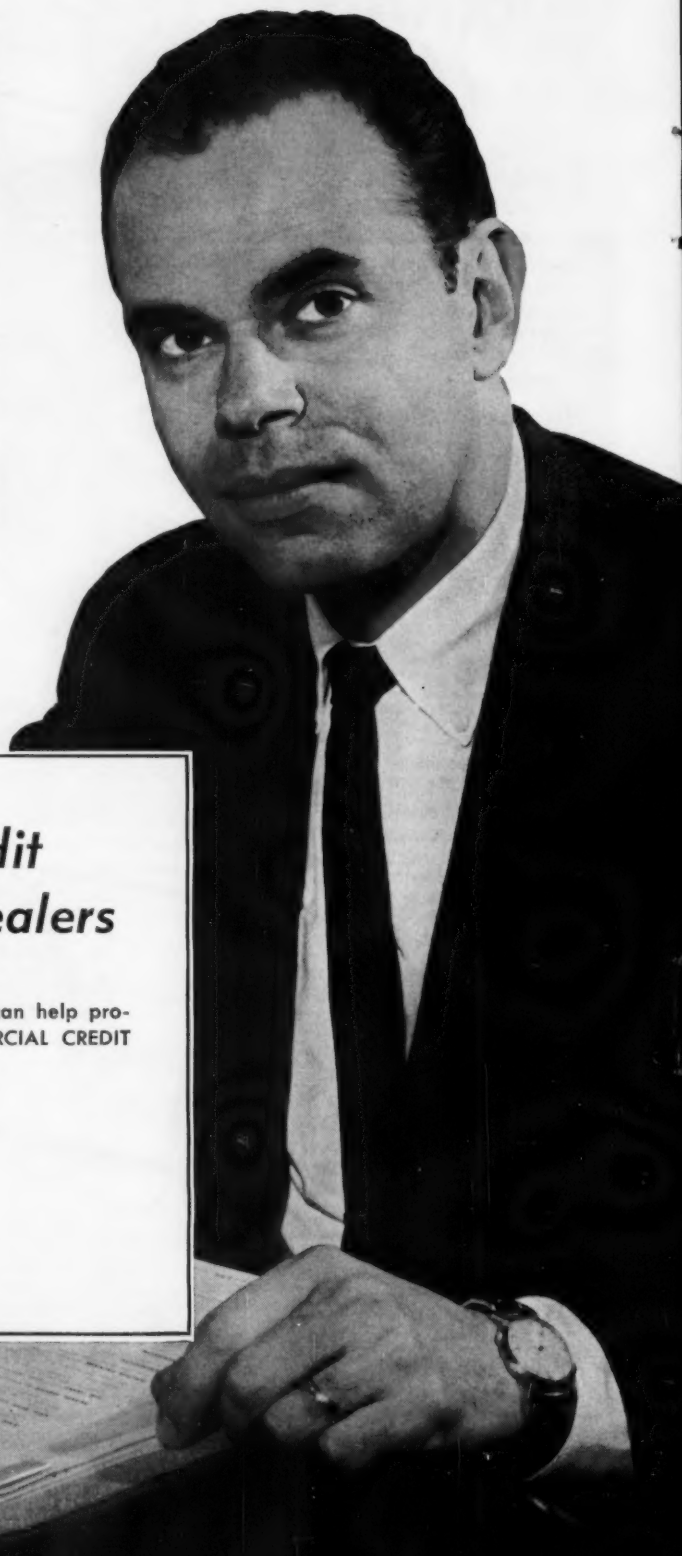
“... on the spot when
we need special service”

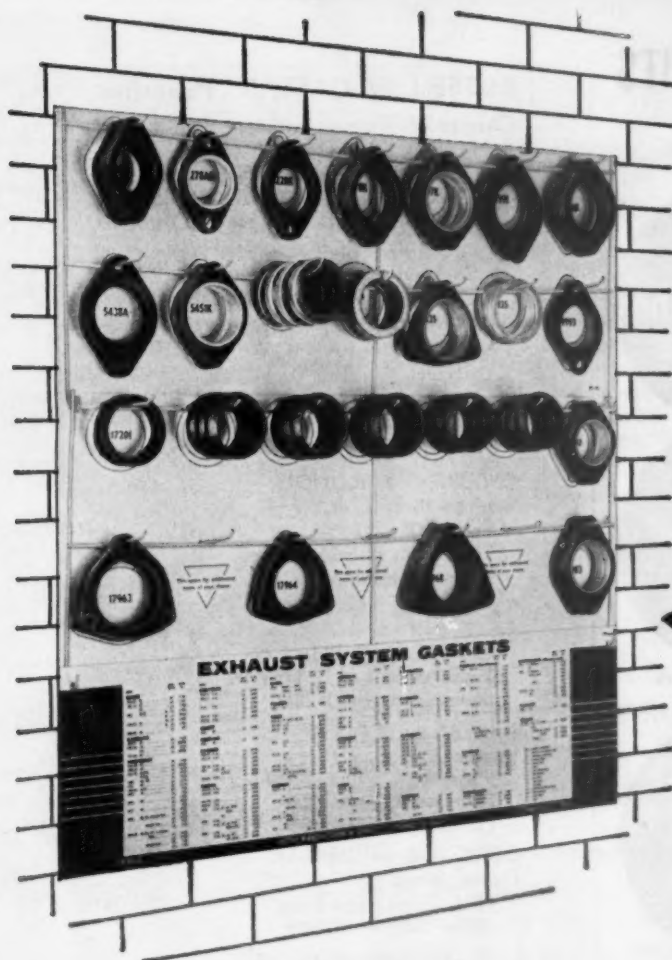
says **VICTOR GOLDSMITH**,
Ford dealer, Queens Village, N.Y.

“We have found COMMERCIAL CREDIT on the spot when we need special service in financing our nationwide fleet operation. We get our answer within 24 hours—and the answer always has been ‘yes.’ On the retail side, in addition to fast service, the excellent name and reputation of the COMMERCIAL CREDIT PLAN help us in competing against bank financing. COMMERCIAL CREDIT’s Morning Meeting Guides and ‘Salesmen Tell Us’ program have been helpful in training and enthusing our salesmen—while point-of-sale items help sell customers. For our part, we use double closings and salesman bonuses to sell the house plan.”

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serves successful dealers

For complete information on how our service can help promote your success, call or write the COMMERCIAL CREDIT CORPORATION office nearest you.





NEW EXHAUST GASKET ASSORTMENT SAVES TIME AND PROFIT

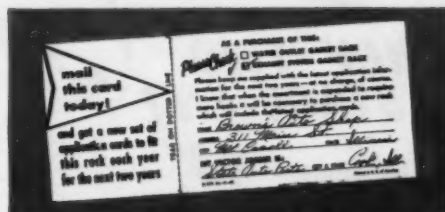
new rack
keeps your stock
current

BUY ONE RACK...VICTOR MAKES IT USEFUL FOR YEARS

This big, new gasket assortment sets you up right for handling more exhaust system service business. The time it saves means bigger profits for you. It has been carefully selected to cover your needs for most cars on the road. Just check the listings by make, and pick your gasket by number.

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For prompt delivery, order today from your Victor Jobber. Specify No. JV480A for the sturdy-built wall rack, and No. JV481A for the most practical exhaust gasket assortment ever offered. You'll like the prices. Victor Mfg. & Gasket Co., P.O. Box 1333, Chicago 90, Ill. Canadian Plant: St. Thomas, Ont.



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... when your jobber delivers your new JV481A Exhaust System Gasket Assortment and JV480A Rack. This card registers you as a new rack owner and insures your getting the replacement backboards with new application listings for your rack as they are issued. Fill-in information requested on back side, and mail immediately. No postage needed.

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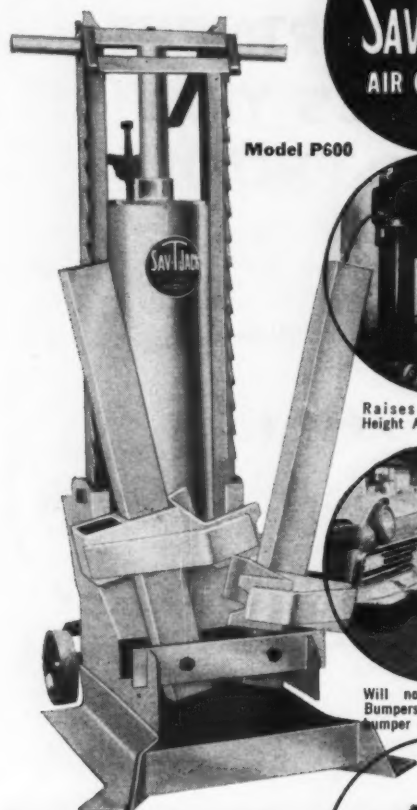
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The 100% Coverage Line ... for Cars, Trucks, Tractors, Stationary Engines

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Raises to 62" with
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FEBRUARY 1961

Volume 80, No. 3

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NEW FRAM *WEAR* PROVED GREASE IN ENGINE SINCE DETE



Fram research has developed a new technique to assure that all Fram Filters measure up to Fram's top quality standards. The pleated fiber in new Fram "Wear-Guard" Filters is impregnated with an exclusive resin 282-RD which assures product uniformity and maximum filtering ability of every filter that comes off the Fram production line.

Tests show new "Wear-Guard" construction traps up to 40% more dirt than any other filter tested! Guards engines against unnecessary wear... stops fuel waste!

Here is one of the most significant filter improvements in a decade! Tests by the most modern methods known — including radioactive tracer techniques — prove new Fram "Wear-Guard" Filters will keep car engines safer than any other filters tested!

The secret is in construction. Thousands of tiny filter pockets are packed inside Fram "Wear-Guard" Filters with new pleated fiber. These tiny pockets hold up to 40% more dirt than was previously possible.

-GUARD FILTERS TEST ADVANCE PROTECTION RGENT OILS!

Along with the new "Wear-Guard" process, Fram Air Filters are flameproof to reduce danger due to backfires. By trapping more dirt, Fram Air Filters extend engine life, as well as delivering maximum gas mileage.

Because of the extra margin of safety and the unequalled quality built into every Fram Filter, you'll find more car manufacturers equip their 1961 cars with filters made by Fram than any other filter!



YOUR FIRST LINE OF ENGINE PROTECTION



Radioactive tracer techniques—one of the newest uses of nuclear physics in industry—were used in tests to determine the increased efficiency and superiority of new Fram "Wear-Guard" Filters.

FRAM
OIL AIR FUEL WATER
FILTERS

FRAM CORPORATION, PROVIDENCE 16, RHODE ISLAND

PROTECT YOUR VALVE JOBS

Keep your reputation good by keeping your customers happy
Here's the secret...

Customers who are sold on the good work you do keep coming back for more. Bring you more service business and bigger profits. To *keep* your customers sold, use the motor oil that gives valve jobs top protection for smooth, customer-pleasing performance.

That oil is Pennzoil—the world's richest, most complete motor oil. So rich, it gives double the protection demanded! So complete, users never need extra additives! Because the special power ingredient, Z-7, keeps parts *clean*—stays on the job for the full life of each oil change.

Pennzoil Z-7 makes customers happy . . . builds more business . . . boosts your profit! So protect *all* your engine jobs with Pennzoil. Call your Pennzoil distributor, listed in the Yellow Pages, or write Pennzoil, Oil City 3, Pa.

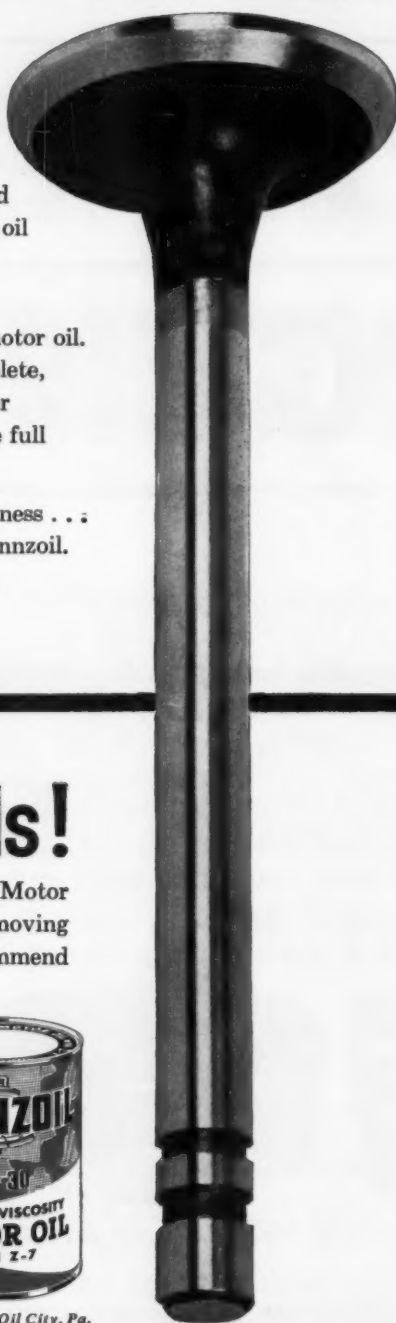
2 Great Motor Oils!

This great pair of 100% pure Pennsylvania Motor Oils with Z-7 stays tough full time—keeps moving parts clean and free of excessive wear. Use them—recommend them, for top customer satisfaction.

Famous Pennzoil with Z-7
in all correct service grades.
Pennzoil 10W-30 with Z-7,
world's only oil-rich,
multiple-viscosity oil.



Member Penn. Grade Crude Oil Assn., Permit No. 2, Oil City, Pa.



COMPLETE!

MOPAR ANNOUNCES a complete quality line of remanufactured parts for all makes of vehicles

Now you can

- install with confidence
- cut service costs
- save time and space
- increase profits
- provide more dependable service

See your Chrysler Motors Corporation Dealer or MoPar Parts Wholesaler for these remanufactured parts:

6 and 8 cylinder engines
(short and complete blocks)
automatic transmissions
fuel pumps
oil pumps
generators and armatures
starters and armatures
voltage regulators
connecting rods
crankshaft kits
clutch assemblies
carburetors
torque convertors

These parts are not just overhauled. They're R-E-M-A-N-U-F-A-C-T-U-R-E-D on modern assembly lines . . . to meet exacting specifications. Yet prices are competitive!

Because of the superior quality of these parts, a 90-day or 4000-mile warranty is offered by the MoPar Approved Parts Remanufacturers through a coast-to-coast network of participating Chrysler Motors Corporation Dealers.



for Chrysler Corporation vehicles



for other makes of vehicles

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ORDER YOUR PACKARD ELECTRIC CABLE NEEDS NOW



Battery Terminal Connector

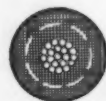


High- and Low-Tension Cable



Snap Fast Connectors

Packard Electric has a complete line of quality automotive cables. They are used on more cars than all other makes combined. From Connectors to High- and Low-Tension Cable, through Battery Cable and T.V.R.S. (Television-Radio Suppressor) Cable, Packard Electric Products have a well-earned reputation for reliability and are packaged for profit and convenience.



Engine Compartment Cable



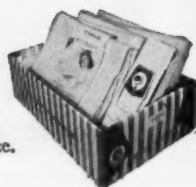
T.V.R.S. Cable

AND ENJOY ELECTRIC BLANKET BONUS!

SPECIAL DEAL—

A CASCO ELECTRIC BLANKET FOR ONLY \$11.95

A \$20 order for any combination of Packard products qualifies you. All you have to do is figure your cable needs for the season. Ask your U-M-S supplier to explain just how easy it is to get one of these Casco Electric Blankets, twin or double size.



Sell September Prices at JUNE PROFITS

* FROSTEMP *



all Season Long!

and you can increase your volume . . . because you **DOUBLE** YOUR MARKET with —

2 LINES

The all-new Frostemp 400 is the most compact, best styled, finest engineered underdash unit ever built! It will sell at top price in any market. The Frostemp is priced to promote . . . to meet *all* competition, yet it's the very same unit that rated top price all across the country last season!

FROSTEMP 400 (top) FROSTEMP (bottom)

OVERNIGHT DELIVERY

Frostemp's warehouses, strategically located throughout the country, solve your stocking problems and afford you *fast* delivery to serve your customers better!

Easier to Sell

Frostemp offers you the most eye-appeal, the best performance, a favorable market price position and a dynamic array of sales aids to make it *easier* for you to sell!

Minimum Investment

With warehouses strategically located to solve your stocking problems, Frostemp offers you a lucrative business opportunity with *minimum risk capital*.

INCREASE PROFITS

Frostemp's TWO price lines, each designed for quick-easy installation in a wide range of foreign, domestic and compact cars, opens the door to increased volume . . . and increased profits!

*Here's
Your Opportunity*

To sell Frostemp
for September prices
and June profits! Return
the coupon Today!

C O N T A C T :

LINDUSTRIES, Inc. 1041 Foch Street
Fort Worth, Texas Phone EDison 2-7933

Name

Address

Firm

PUROLATOR'S

Features this SYLVANIA



Jewel-like in appearance

...yet packed with power—this

\$34.95 Sylvania model 4 P19 American-made radio costs you nothing when you buy the 1961 Purolator Bonanza deal.

1961 BONANZA

\$34⁹⁵*

WOW!

Transistor Radio

**Here's all you do to get this
\$34⁹⁵ transistor radio at no extra cost!**

- ✓ Get the Purolator Bonanza assortment of 27 fast-moving filters for \$49.95.*
- ✓ Included right in the same package is your \$34.95* Sylvania radio (and an Eveready transistor battery for immediate play).

PUROLATOR'S NEW **LISTEN TO THE MAN..!** **PROMOTION WILL**
MAKE 1961 YOUR BEST YEAR IN FILTER SALES... for details, Turn to Pages 22, 23

"Sylvania" and "Purolator" Reg. U. S. Pat. Off.

*Suggested Prices



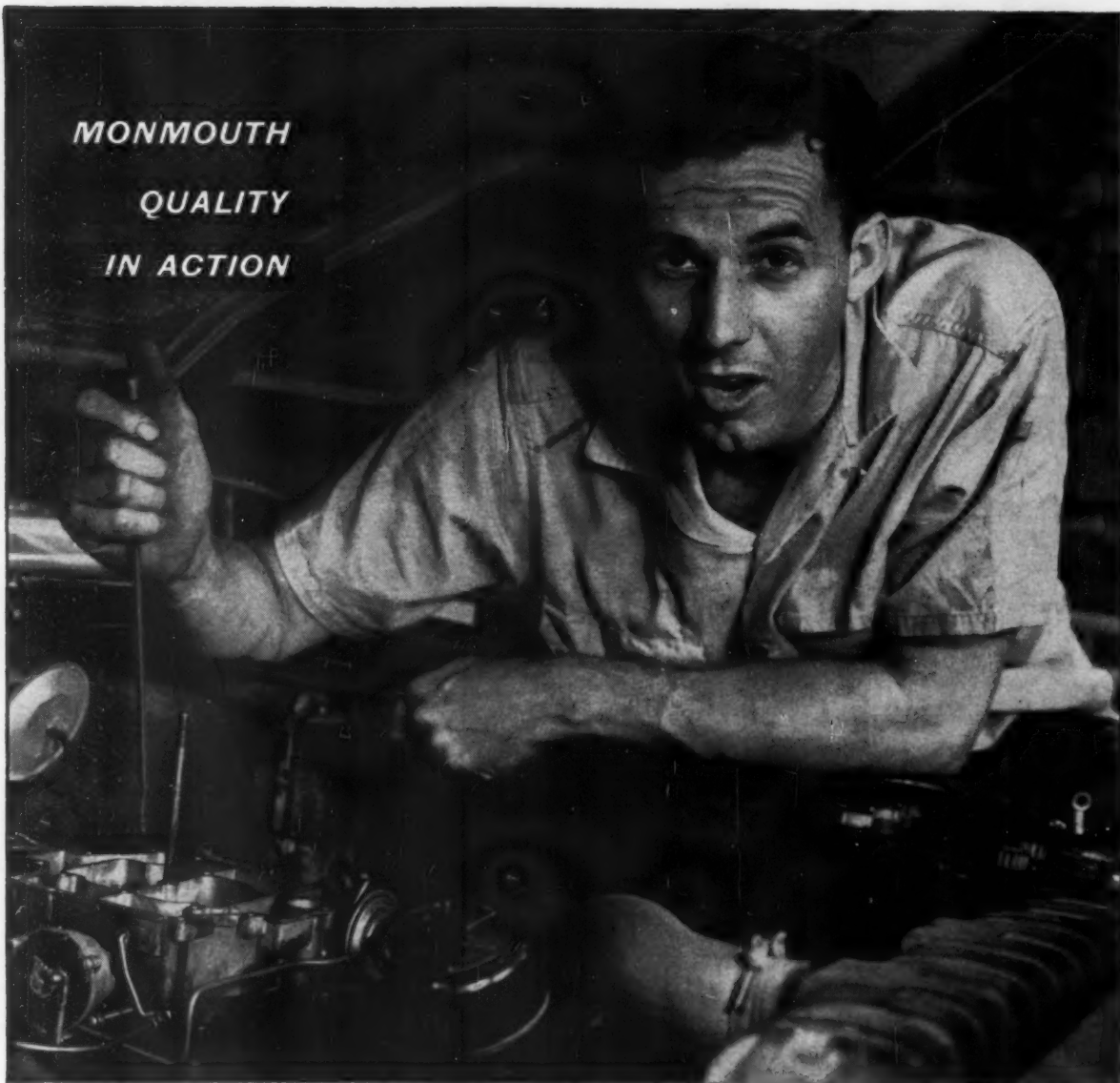
The Standard Equipment Line

PUROLATOR

OIL, AIR & FUEL FILTERS

PUROLATOR PRODUCTS INC., Rahway, N. J.; Toronto, Ontario, Canada

**MONMOUTH
QUALITY
IN ACTION**



"Bearings? We've always used Monmouth..."

... as far back as I can remember. My father was in business here for 38 years and you might say that I grew up with Monmouth. Our reputation for quality work means a lot to us. That's why we've stuck with Monmouth—they always give us a good performance."

For quick service on top-quality bearings call your nearby NAPA jobber. He has the complete line of Monmouth bearings backed by Monmouth service.

says John Robinson, Owner
Robinson's Auto Repair Shop
Jackson, Mississippi

MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio





DUANE (LEFT), WALTER AND DON LONGACRE, FREMONT, NEBRASKA

"Our gallonage has almost tripled since we went with Texaco in 1951. That goes for our TBA and service business, too. People like Texaco Products. Our Texaco credit card sales alone are about \$1,500 a month. And, we like to do business with the Texaco people — they are cooperative and always ready to help. It has paid us well to sell the best — Texaco."

WHY THERE'S A PROMISING FUTURE WITH TEXACO

Here are 6 reasons why Dealers and Distributors grow with Texaco.

1. The best retailer policy — Texaco

helps its Dealers. 22,502 Dealers have been with us for more than 10 years.

2. Texaco is jobber-minded. *Proof:* 842 Consignees and Distributors have been with us over 20 years, some over 45 years.

3. The best opportunity to cash in on "touring" business — because when Texaco customers are touring they like to stop at Texaco stations. This means you have more than 40,000 other Texaco Dealers helping you.

4. The best customer credit card — in fact, the only petroleum credit card honored under one sign throughout the entire United States, and in Canada, too.

5. The best national advertising program, year after year . . . constantly selling Texaco Products and Dealer service. The best sales promotional material to help build customers.

6. The best petroleum products, known and accepted nation-wide. Continuous research and development insure that Texaco will always have outstanding products.

TUNE IN: TEXACO HUNTLEY-BRINKLEY REPORT — MON. THROUGH FRI., NBC-TV. ALSO — METROPOLITAN OPERA RADIO BROADCASTS ON SATURDAYS.

SALES MANAGER, TEXACO INC. MA-2
135 EAST 42nd STREET, NEW YORK 17, N. Y.

I would like to get complete information about the possibility of teaming up with Texaco as a: ☐ Distributor ☐ Consignee ☐ Dealer (Some investment is required)

NAME _____

STREET _____

CITY _____

STATE _____

PHONE _____

----- **TEXACO INC.**

you get your Chevy parts

P D Q !



at your Chevrolet dealer's!

P. D. Q. means Parts Delivered Quick. Chevy car and truck parts, including Corvair and Corvette—high-turn-over parts, hard-to-get parts, new model parts, old model parts. Whether the job calls for an eyelet-size grommet or a transmission overhaul kit, your Chevy dealer either has it on his shelves or he can get it for you pronto (via teletype, if necessary) from a factory warehouse.

When you install genuine Chevrolet parts, both you and your customers know they are *right*, because they're quality built to fit and perform to Chevrolet's exacting specifications. And Chevrolet parts are *reasonably*

priced—all of which means more profitable business for you as a service specialist.

Besides giving you P.D.Q. parts delivery, your Chevy dealer is in a position to help instruct your mechanics in Chevrolet's factory servicing methods and counsel with you on job estimates. Many dealers offer additional conveniences ranging from credit arrangements to modern machine shop service facilities. These are just a few of the ways it pays to make your Chevrolet dealer your partner in service. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



there's no business like Chevrolet business . . . make your Chevy dealer your partner in service!





VALUABLE PREMIUMS FREE WITH SPARK PLUG BOX TOPS

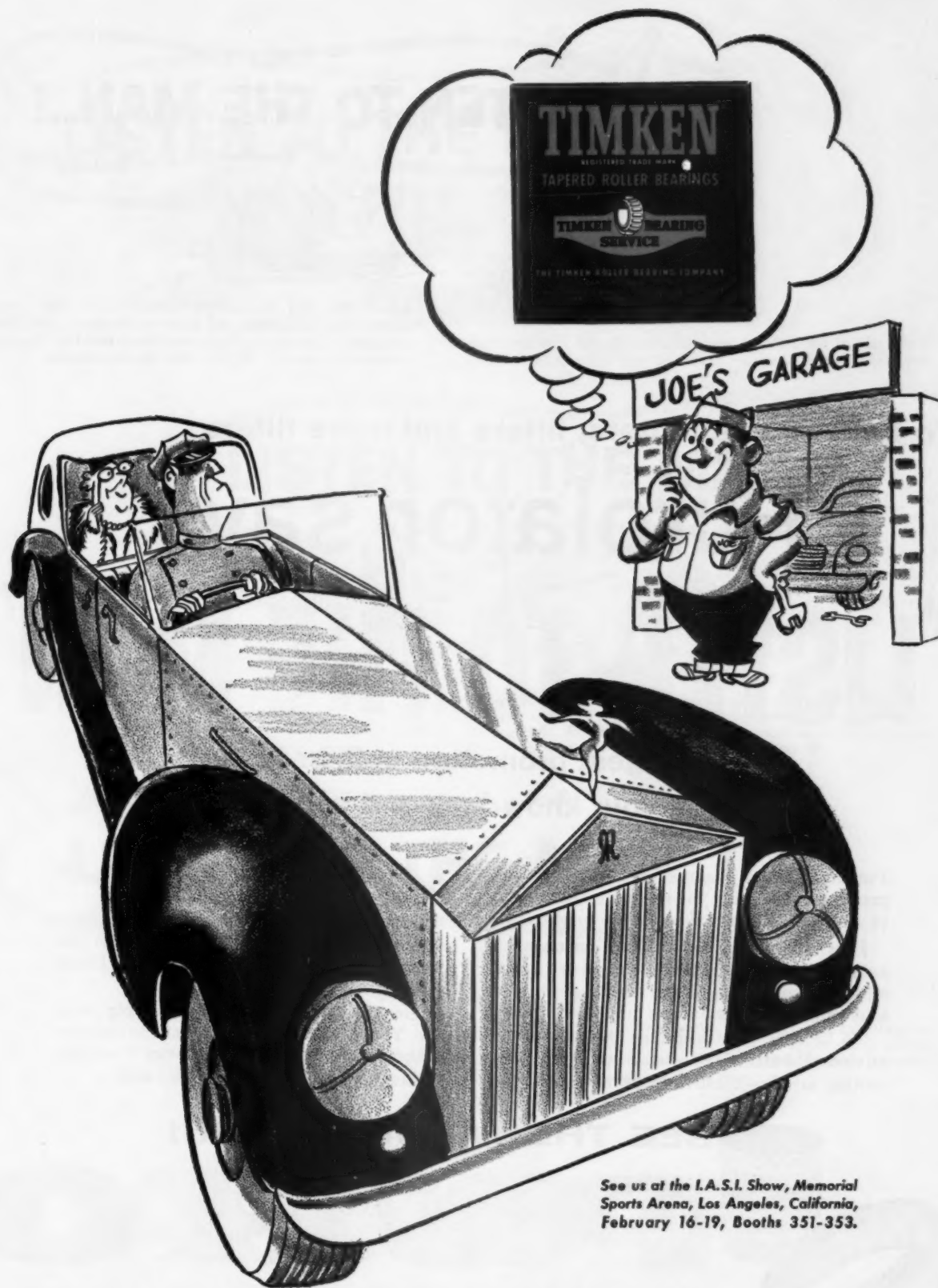
A whole catalog full of stuff. Watches, tableware, encyclopedia sets, sprinklers, hot dog cookers, sweaters, roller skates . . . we could go on and on. The point is it's all free, but only if you sell Autolite Spark Plugs. If you don't, you're out of luck. You Autolite Dealers, want to know how you can get all this free merchandise? Nothing to it. Simply tear off the printed box top, with the part number on it, from every spark plug box and lock them up in your safe. Or take 'em home and let your wife stash the tabs away. When

you've got a fistful, pick out what you want from our free catalog sheets (or send us two bits for the big, beautiful catalog). Pick out what you want. Or let your wife do it. You know how they love poring through catalogs. And you fellows who sell some other brand of spark plugs, we'd like you to get in on this good deal, too. Just call your Autolite Supplier. You'll find there's a good many reasons why it pays to sell Autolite Spark Plugs. Why not call him now, and go Autolite for '61.



AUTOLITE

SPARK PLUG DIVISION • TOLEDO 1, OHIO



See us at the I.A.S.I. Show, Memorial Sports Arena, Los Angeles, California, February 16-19, Booths 351-353.

Your customers come back for the best...so tell 'em you always use Timken® tapered roller bearings

LISTEN TO THE MAN..!



RADIO WILL GET Purolator's "Listen to the Man" message to your customers. *All Summer* Monitor's 200 NBC stations . . . *Spring and Fall* there's local radio in 70 major markets—a total of 50,000 radio announcements.

To help you sell filters, filters and more filters

Purolator says "LISTEN TO THE MAN"

**... the biggest promotion in filter history
stresses your know-how and service**

Purolator brings you into its 1961 advertising program . . . helping you sell more filters, more of all the products and services you offer.

How? Simply by telling your customers to listen to you . . . to take your expert advice when you suggest an oil and filter change . . . or make any recommendations for better car care.

To be sure *your* customers get this sound advice—Purolator's "Listen to the Man" promotion is big—coast-to-coast network radio

. . . local radio in 70 key markets . . . 600 reflectorized full-color highway signs.

So get ready to sell more Purolator filters, more oil changes, more of everything. Tie into the program, by using the colorful new "Listen to the Man" displays in your station.

Remember, Purolator filters are a big profit item. You make an average profit of \$3 on every oil and filter change . . . and every Purolator air filter you sell is an extra \$4.00 sale.



SEE THE FABULOUS 1961

PURO

**OIL, AIR, &
GASOLINE FILTERS**

"Purolator" Reg. U.S. Pat. Off.

LISTEN TO THE MAN..!



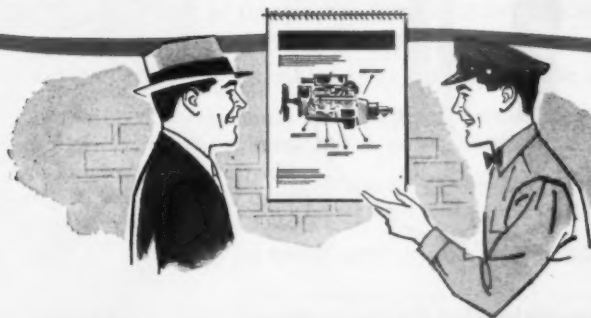
600 HIGHWAY SIGNS will blaze out the "Listen to the Man" message 24 hours a day, 365 days a year on major highways.

LISTEN TO THE MAN..!



THERE'S TV, TOO . . . chances are good the special Purolator "Car Care Series for Women" will be seen by your customers during 1961. It reminds your women customers that you are the car-care expert . . . "The man" to listen to!

LISTEN TO THE MAN..!



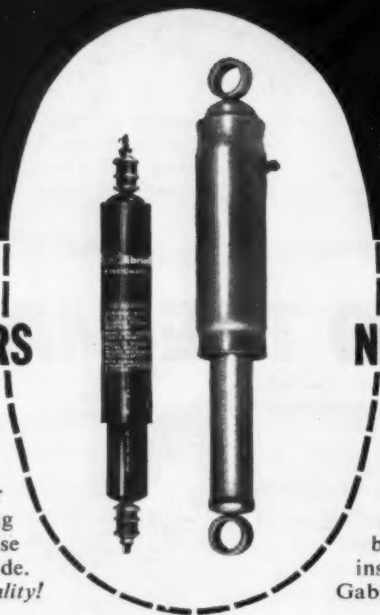
BE "THE MAN" to listen to . . . talk up good car care. Don't miss an opportunity to tell your customers why good filtration prevents needless engine wear.

LATOR

BONANZA . . . TURN TO PAGES 14, 15

SELL THE "PERFECT PAIR" FROM GABRIEL

and get your share of the booming shock absorber market!



SHOCK ABSORBERS

Gabriel shock absorbers embody such quality features as exclusive O-Ring piston seal, which prevents leakage between piston and cylinder wall...greater piston exposure, for greater damping control... and the finest, most precise valving of any shock absorbers made. When you sell Gabriel you sell *quality!*

NEW LOAD-ABSORBERS

Gabriel Load-Absorbers help prevent dangerous rear end sag and side sway under heavy loads... deliver a safer, more comfortable ride under all load and road conditions. For a perfect combination, ask your customers to let you install Gabriel Ajustomatics in front and Gabriel Load-Absorbers in back!

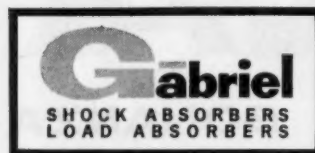
Without a doubt shock absorbers offer one of the biggest profit opportunities in the replacement market today. And it's a lead pipe cinch you'll do best with the great Gabriel line.

For Gabriel not only offers the Hydrosbox, finest standard shock made... Gabriel also offers two top-selling adjustable models — the Ajustomatic and the hefty Adjustable "E"—that let

each motorist select the ride he wants, for the roads he rides. And Gabriel rounds out the finest, most complete line in the industry with the incomparable Load-Absorber, the revolutionary new air-oil device that keeps every car at its level best.

So now is the time to tie in with Gabriel... and cash in on the hottest profit opportunity of the year!

**The Gabriel Company
Cleveland 15, Ohio**





THIS IS THE BEGINNING

OF THE FINEST TUNE-UP JOB YOU'VE EVER DONE...

A MOTORCRAFT QUALITY IGNITION POINT SET THAT'S BUILT TO BACK UP YOUR BEST WORK WITH RELIABLE PERFORMANCE!

The all-new line of MOTORCRAFT parts is built to rigid factory specifications to provide reliability that will help you *hold* customer good will. And customer

satisfaction means increased tune-up and repair business for increased profits! Here, for example, are a few reasons *why* MOTORCRAFT point sets are *reliable* . . .



- Two metal pieces, instead of one, are used for conductor and spring . . . in controlling breaker arm movement and electrical characteristics.
- Insulation eyelet is designed to maintain proper tension throughout life of the points.
- Rubbing block is double-riveted to movable breaker arm, and secure fastening is further provided by rigorous endurance test that "bounces" the rubbing block time and again . . . much harder than in normal usage.
- MOTORCRAFT tungsten tips are cut with a diamond wheel from the highest grade (99.3% pure) tungsten rod . . . only tungsten rod insures superior graining structure.
- The stationary point is ventilated . . . MOTORCRAFT points last up to three times longer than non-ventilated types.

And, throughout assembly . . . 21 gauges, including functional test equipment, are used to inspect the point assemblies. High quality control like this is *typical* of the manufacture of *all* the parts in the fast-moving MOTORCRAFT line. MOTORCRAFT parts cover a wide range for electrical, ignition and carburetor tune-up and repair jobs, and are available from leading jobbers everywhere. Give your jobber a call—and ask about MOTORCRAFT's Quick Reference catalog.

BUILT TO BACK UP YOUR CUSTOMERS' BEST WORK





WALTON MOTOR'S location covers large area.



THIS NATIONAL repays its cost every year.



WORLD'S LARGEST CHRYSLER-IMPERIAL DEALER IS A NATIONAL USER.



JOSEPH LEVY, BOARD CHAIRMAN of Walton Motor Sales, Inc., reading congratulatory letter from E. M. Braden, Gen. Sales Mgr. of Chrysler Corp., acknowledging Walton leadership for 7 consecutive years in sale of Chrysler and Imperials.

"Our *National* System
saves us \$4,000 a year...
returns 100% annually on investment."

—Walton Motor Sales, Inc., Chicago, Ill.

"Our National System is a great asset in maintaining our stature as the world's largest Chrysler-Imperial dealer," writes Joseph Levy, Chairman of the Board, Walton Motor Sales, Inc.

"For one thing, the speed of our National System provides us with immediate departmental information. This National benefit is important because it permits us to keep our records on a current basis. Next, our National System is accurate. Its

automatic totalization feature gives us certified assurance that all data is correct.

"This system is a highly efficient money-saver. Our National System saves us \$4000 a year . . . returns 100% annually on investment."

Joseph Levy C. O.

Chairman of the Board
Walton Motor Sales, Inc.

Your automotive business, too, can benefit from the many time- and money-saving features of a *National* System. Nationals pay for themselves quickly through savings, then continue to return a regular yearly profit. National's world-wide service organization will protect your profit. Ask us about the National Maintenance Plan. (See the yellow pages of your phone book.)



TRADE MARK REG. U. S. PAT. OFF.

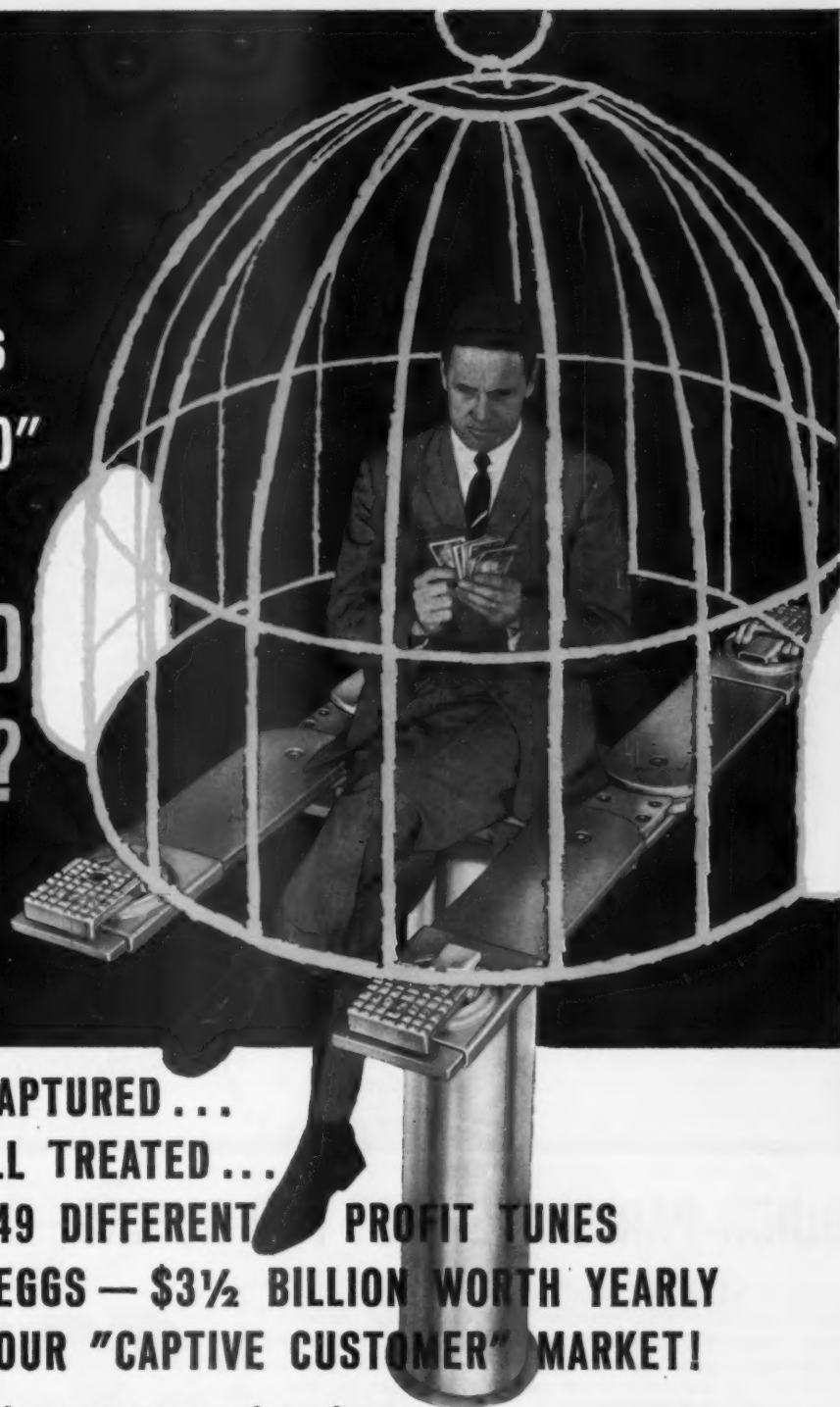
National*

CASH REGISTERS • ADDING MACHINES
ACCOUNTING MACHINES

NCR PAPER (NO CARBON REQUIRED)

THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio
1039 OFFICES IN 121 COUNTRIES • 77 YEARS OF HELPING BUSINESS SAVE MONEY

WHO is
the "BIRD"
in the
GILDED
CAGE?



**EASILY CAPTURED ...
LOYAL IF WELL TREATED ...
SINGS 49 DIFFERENT PROFIT TUNES
... LAYS GOLD EGGS — \$3½ BILLION WORTH YEARLY
... HE'S YOUR "CAPTIVE CUSTOMER" MARKET!**

See how to increase your service sales ...

write for free Bulletin 169-L today!



THE JOYCE-CRIDLAND COMPANY

Designers and builders of lifting equipment since 1873

U.S.A.: 2027 E. FIRST STREET, DAYTON 3, OHIO

CANADA: MIDLAND FOUNDRY & MACHINE CO., LTD., MIDLAND, ONT.



3 OTHER JOBS PILED UP AND YOU BRING ME A KIT THAT DOESN'T FIT!

IT'S SUPPOSED TO BE JUST AS GOOD.

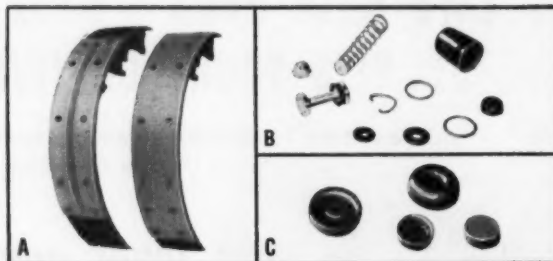
OH, OH! LARRY'S HAVING "FITS" AGAIN. HE WANTED A BUICK WHEEL CYLINDER KIT AND THE KID GOT ANOTHER KIND.



BUICK PARTS ARE BEST FOR BUICKS—BEST FOR YOU!

At up to \$5 an hour, who can afford to fiddle away a mechanic's time with problem parts? You don't have to when you use Buick Factory Engineered Parts for Buicks. Engineered by the same people who made the car, you're sure they fit perfectly, work perfectly. Another big plus. You can tell your customers you used Genuine Buick Parts. It builds good will. And, word gets around—brings you new Buick business. Best of all, a complete inventory is as close as your nearest Buick Dealer. (And, his parts or service manager is a ready and willing ear for any problems you may come across.)

**YOUR ONE-STOP SOURCE FOR BUICK PARTS IS
YOUR AUTHORIZED QUALITY BUICK DEALER**



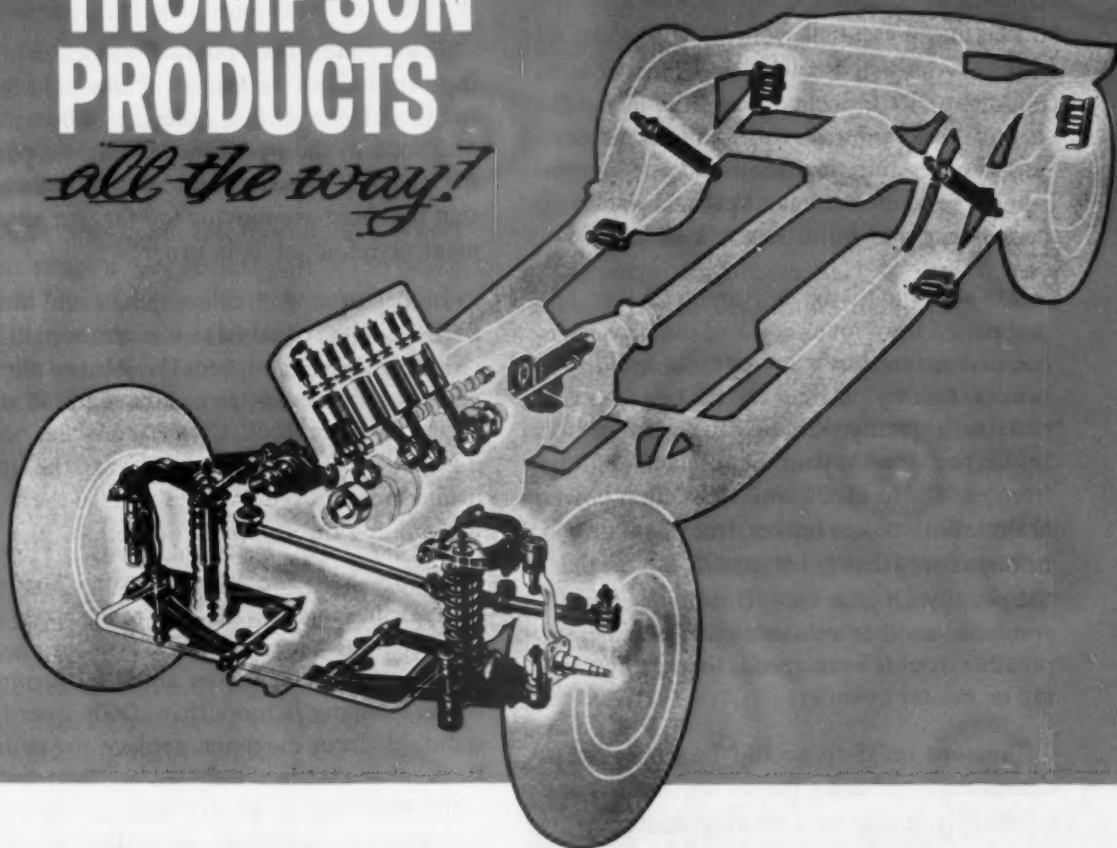
A) BUICK Brake linings, made of specially blended compounds, are highly wear-resistant.

B) BUICK Master Cylinder Kit makes rebuilding master cylinder a quick, profitable job.

C) BUICK Wheel Cylinder Kit restores phenomenal Buick braking power, avoids leaks.

Go **THOMPSON PRODUCTS**

all the way!



**Original Equipment
Experience
pays you an
extra profit on
every car
you service**

Every mechanic, every shop owner and manager in the automotive repair field knows that a satisfied customer means additional business, *additional profits*. And the way to build customer satisfaction is by restoring original performance standards to every car you service.

Profit-wise repair shops don't gamble. They depend on Thompson Products original equipment precision parts for every engine, automatic transmission and chassis replacement because Thompson parts produce a better profit. They save expensive man hours! They fit right, speed re-assembly, require minimum break-in time, deliver long trouble-free service after the customer leaves their shop.

For the best one-stop service in the replacement field—see your local Thompson Products distributor, today.



Thompson Products
Replacement Division

Thompson Ramo Wooldridge Inc.

Cleveland 3, Ohio

How Top Brake Shops Build

Brake relining today is big business, accounting for over \$700 million in sales each year! *Quality* workmanship coupled with a *quality* brake lining can help you get your share of this big market. So why not start now to boost your '61 profits! Start by using the sound, tried-and-true installation methods used successfully by thousands of professional brake mechanics to prevent annoying comebacks and build repeat business.

Let's begin at the beginning. A car has just pulled into your shop and the driver has complained that he's having trouble with his brakes. Just by pushing the brake pedal you can learn plenty. Check free play of the brake pedal with your hand. It should be from 1/4" to 1/2" on most non-power brakes. With power brakes, free pedal should be anywhere from 1/16" to 1/8". Now push the pedal with your foot. If it binds or locks you have another valuable clue. It indicates possible trouble in the pedal linkage, mounting or master cylinder.

Pressure build-up should be smooth and constant. If pressure builds up, then drops off sharply, it may be a sticking master cylinder, wheel cylinder, or partially blocked hydraulic line . . . usually a hose. When you make the pedal test you are also checking

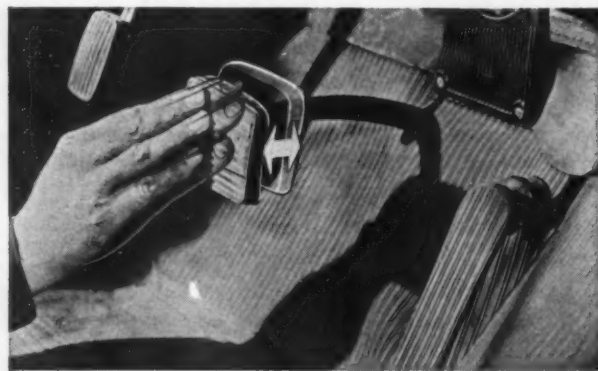
pedal reserve. If reserve is low, it indicates the need for brake work, or at least an adjustment.

If the pedal "floor-boards" when you press it down, it is an indication of low fluid level in the master cylinder, excessive shoe travel, or a leak in the hydraulic system. So pump the pedal. If pressure builds up, it indicates that the shoes are moving too far. An adjustment or relining job is in order.

In performing a relining job, each brake part should be checked as it is removed. This checking-as-you-go speeds the job and allows you time to procure any parts required that might not be in stock. Check the wheel bearings and grease seals carefully when the front drums are removed. Always replace the seals when doing the complete brake job.

Drums should be turned in pairs. The two front drums and/or the two rear should be turned to the same diameter. Always check the drum diameter before and after turning. If the diameter is more than .060" over the standard drum diameter, replace the drum. Remember that brake drums are heat reservoirs. They absorb a lot of heat during braking. The less metal the drum has, the less the drum's capacity to absorb heat properly.

If drums have been turned, be sure to use



Free play: 1/4" to 1/2" on most non-power brakes, 1/16" to 1/8" on most power brakes.



Each part should be checked as it is removed to speed job.

Volume Repeat Business!

proper thickness American Brakeblok lining. Check the lined shoe in the brake drum. It is recommended that from .005" to .012" clearance be allowed at each end of the long lining segment. Never allow clearance between center of lining and drum. This is a sure-fire cause of noise, as well as a contributor to brake pull.

Check the cylinders thoroughly. Wheel cylinders are a very critical part of the brake system. Extreme care should be taken to prevent dirt or abrasive elements from getting into the cylinder area. Use only alcohol or brake fluid for cleaning these parts.

When you install the brake shoes be sure you have them in their proper position. Check your American Brakeblok service manual for complete details. After you have installed the brake shoes and springs, make a final inspection to be sure every part is in its proper place before installing the drum. Brake drums are easily distorted when tightening wheel lugs. Never completely tighten one wheel lug before starting the others.

Completely bleed the brake system before making adjustments. A power or pressure bleeder is recommended. Start bleeding the wheel cylinder farthest from the master cylinder. In cases where there are two wheel

cylinders on a brake, bleed the lower one first. Allow sufficient fluid to flow through each wheel cylinder to insure a complete flushing of the system and remove all air.

If brake is of such design that it has adjustable anchors, give it a very careful and complete major adjustment. If brake does not have adjustable anchors, then proceed with minor adjustment. In the case of servo or self energizing brakes, back off star wheel adjuster 14 notches from a tight brake.

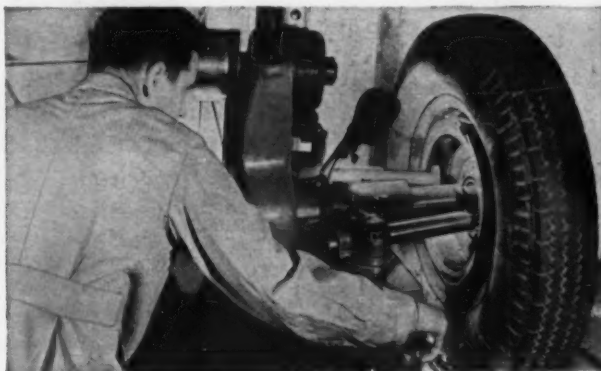
Needless to say, every job which leaves your shop should be the very best job it was possible for you to do. (Never return a car to the customer with *any* drag between lining and drum.) Satisfied customers mean repeat business. They also are your prime new business builders. The good word gets around . . . and you profit by it! (Just as you will profit by using high-quality American Brakeblok on all your relining jobs!)



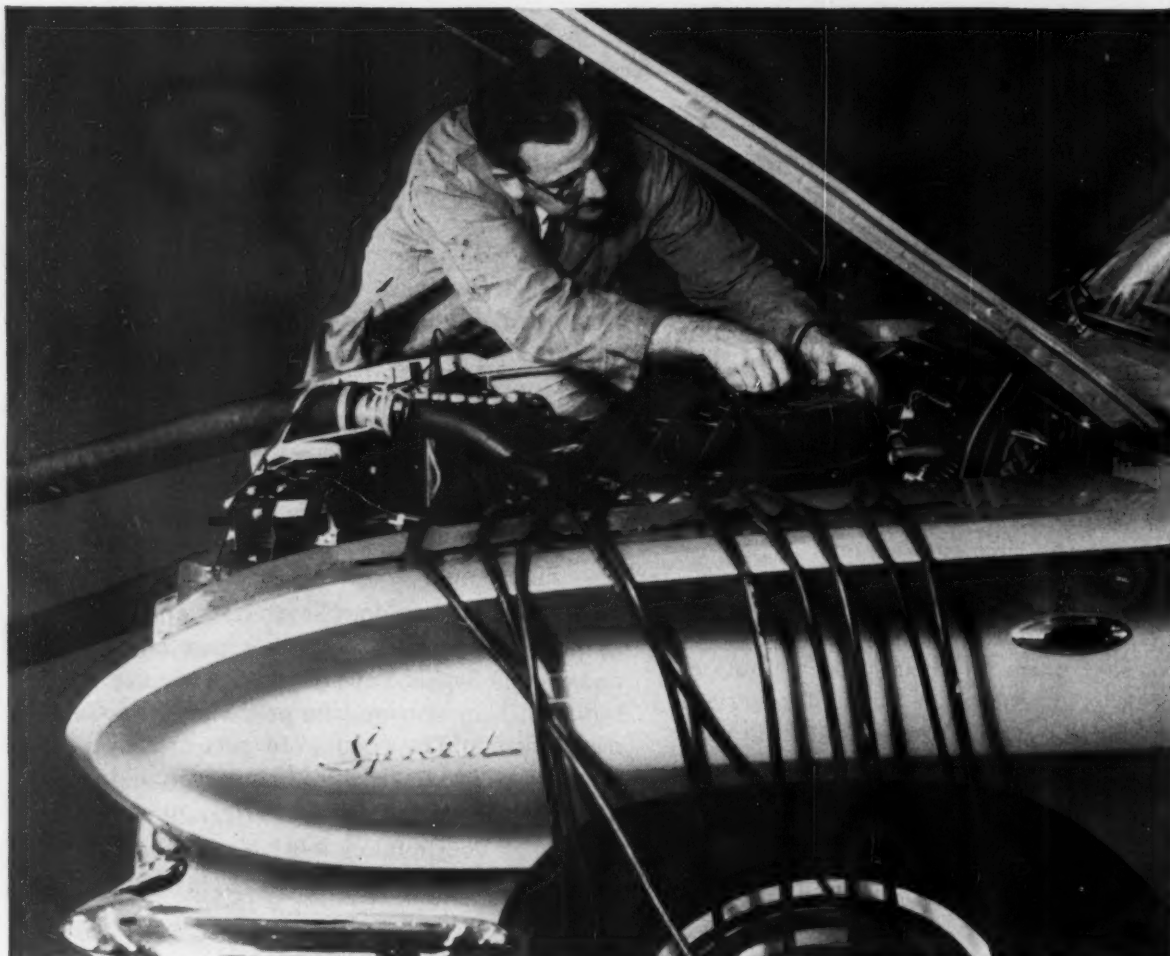
P. O. BOX 21 • BIRMINGHAM, MICHIGAN



Check wheel bearings and grease seals carefully.



Drums should be turned in axle pairs.



1. Car is installed on a chassis dynamometer which is set to simulate exact road-load conditions. (These are determined by making an instrumented 2-way road run.) Cables over fender are leads from special Champion thermocouple spark plugs that act as "thermometers," telling exact plug temperatures inside running engine.

RECOMMENDED CHAMPION SPARK PLUG

BUICK			
(except "Special").....	J-12Y		
Special (Aluminum V-8).....	UL-15Y		
CADILLAC		J-12Y	
CHEVROLET 6-cyl.			
(except Corvair).....	J-9Y		
Corvair.....	UL-15Y		
348-cu. in.			
V-8 (¾" reach).....	UN-12Y or N-12Y		
283-cu. in.			
(except Corvette).....	J-12Y		
Corvette Normal Service.....	J-12Y		
Sustained High Speed.....	J-9Y		
CHRYSLER			
C300 Series.....	J-9Y		
All others.....	J-12Y		
COMET		F-14Y	
CONTINENTAL		F-11Y	
DE SOTO			
Ram Engine.....	J-9Y		
All others.....	J-12Y		
DODGE			
Lancer & other 6-cyl.....	UN-12Y		
V-8 Ram Engine.....	P-9Y		
All other V-8's.....	J-12Y		
FALCON		F-14Y	
FORD			
6-cyl. (except Falcon).....	860		
292-cu. in. V-8.....	F-14Y		
390-cu. in. V-8 engine			
hi-performance model			
and Police Interceptor.....	F-9Y		
All other V-8's.....	F-11Y		
IMPERIAL		J-12Y	
LINCOLN		F-11Y	

Here's why you can be sure you're right when you install Champions in all 1961 cars

For months Champion engineers and technicians have been busy—on the road and in the lab—carefully matching spark plugs to the '61 engines. A big, precise job . . . because only the right type of spark plug will draw true top performance from an automobile engine. Here's how that job was done . . . and a complete list of the '61 recommendations . . .



2. Thick tubes circulate car's water through special "cooling tower." Oscilloscope is also used to warn if plugs approach preignition point. Securely fastened down on dynamometer, car is then "driven" at different speeds. Engine often runs all day for different readings.



3. Tachometer and vacuum readings (being taken above) pinpoint exact simulated "speed" of car. Results of tests are analyzed to see which plug type has greatest resistance to fouling and preignition in engine being tested, and thus will deliver best performance. Dynamometer tests are backed by extensive road testing before recommendations are approved.

TYPES FOR 1961 MODEL AMERICAN CARS

MERCURY

6-cyl. Meteor.....	860
292-cu. in. V-8.....	F-14Y
All other V-8's.....	F-11Y

OLDSMOBILE V-8's

(except F-85).....	J-12Y
F-85 (Aluminum V-8).....	UL-15Y

PLYMOUTH

Valiant & 6-cyl.....	UN-12Y
Ram Engine V-8.....	J-9Y
All other V-8's.....	J-12Y

PONTIAC

All Models (except Tempest).....	J-12Y
----------------------------------	-------

(Tempest)

V-8—Aluminum Engine.....	UL-15Y
4-cylinder Engine.....	J-12Y

RAMBLER American

OHV Engines.....	H-18Y
All others.....	H-10

STUDEBAKER

All Models 6 & V-8.....	H-14Y
-------------------------	-------

THUNDERBIRD.....

F-11Y

WILLYS.....

J-8

DEPENDABLE

CHAMPION

SPARK PLUGS

CHAMPION
SPARK PLUG COMPANY
TOLEDO 1, OHIO



DIRT-SEALED trigger



**ELECTRIC
IMPACTTOOL**
Size 2U, 3/8" Drive

Plunger-operated instead of conventional swinging lever switch, and sealed tight from dust and dirt... another exclusive I-R feature which assures you long, trouble-free operation and easy maintenance. Look for these red ● ball extras before you buy!

another red ● ball extra

- **Easy-Out Replaceable Bushing.** You don't have to buy a new hammer case when you want to replace the bushing on an I-R Impacttool.
- **Life Guard Commutator.** Exclusive I-R construction prevents motor damage, permits easy dressing, provides long brush life.
- **Job-Tailored Motor.** Not "adapted" but built specifically for rugged Impacttool duty.
- **"2-Pack" Construction.** Either the impact mechanism "pack" or the motor "pack" can be serviced individually without disturbing the other.
- **Electronic Precision.** Special electronic equipment double-checks machined parts for perfect mating of all surfaces and bores.

*best design—biggest line
look for the red ● ball extras*

Ingersoll-Rand

11 Broadway, New York 4, N. Y.

56A-18

Automotive Career Opportunities Committee Swings Into Action



Rollin McBurney

Past President of California Automotive Wholesalers' Association and members of the Board of Directors of the Automotive Service Industry Association

ROLLIN McBurney, past-President of the California Automotive Wholesalers' Association and member of the Board of Directors of the Automotive Service Industry Association, recently announced formation by CAWA and ASIA of the Automotive Career Oppor-

tunities Committee to present job opportunities to graduating high school students this spring.

Composed of California wholesalers, garage men and factory representatives, the Committee's first programming is beamed at three pilot areas—Los Angeles, San Francisco and Sacramento. "It is our hope," said McBurney, "that as the program develops in these three pilot areas, jobbers and other automotive employers will want it for their own communities. In this way, the program will ultimately be extended to high schools throughout California."

Descriptive Brochure

Distribution of a descriptive brochure developed jointly by CAWA and ASIA, will be broadly effected by ASIA and CAWA wholesaler members, who will

This Committee formed by the California Automotive Wholesalers' Association and the Automotive Service Industry will present automotive job opportunities to graduating high school students

rubber-stamp their firm names on the face of each brochure they distribute. These same wholesalers will then act as career consultants for all young people who inquire. IGO garage operators and AAR/Booster factory men will similarly serve those interested in auto mechanics or in factory sales.

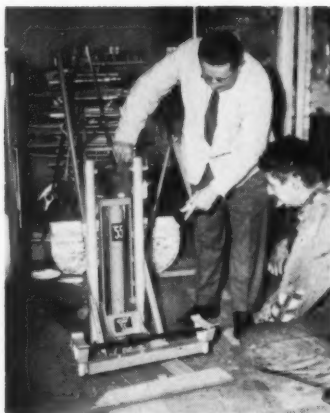
Committees Appointed

Committees of industry employers representing the participating associations have been appointed in the three pilot areas as shown in chart.

"Co-sponsored by CAWA and ASIA, this program," said McBurney, "illustrates a grass-roots approach to a problem through the splendid cooperation of the participating trade associations and their members."

Service on Equipment is Selling theme for jobber

*Servicing what they
sell enables this
jobber to keep a
check on customers
needs for equip-
ment replacement*



Customer is shown a new jack
after leaving old one in jobber
shop for repairs.

BY stressing its service policy and service department when automotive equipment is being purchased by customers, the Service Parts Company, 2230 Reisterstown Road, Baltimore, Md. feels that it has added better than 10 percent to its sales volume of this equipment.

"Our long standing policy of "servicing what we sell"—has stood us in good use in making sales," explains jobber manager, Morton B. Tenner. "Customers buying from automotive jobbers do not have time to hunt around

Drive-in area at store front is an inducement to the quick service type of customer.



for service when it is needed on specific pieces of equipment which they are using," adds Tenner. "Therefore, we make this a major part of our sales presentation whenever a customer becomes interested in this type of equipment."

In the main, Service Parts Company tries to service as much of the equipment which it sells as possible. In other cases, the equipment is returned to the source of manufacture and this saves the customer the time and effort necessary to handle this situation. In other cases of equipment which is not easily movable, Service Parts will see that a mechanic gets to the location of the equipment and does the necessary repairs here. In combination, this practically eliminates the time and effort which average customer has to go to in order to repair or service various equipment that is in use. Because they know that they can depend upon Service Parts for this necessity, it has helped this automotive

jobber to move more equipment.

Hydraulic jacks, battery rechargers and other equipment are some of the items serviced by this jobber. Repair costs are held to as nominal as possible so that customers realize that this jobber is trying to cooperate with them in this relationship as much as possible. As a result, when the customer becomes interested in replacement equipment or additional new equipment, they return to this jobber to make their selections.

"Our service facilities have also enabled us to maintain a closer check on our customers when they are in need of replacement or new equipment," explains Tenner. "Sometimes, equipment which is turned into us for repair is so old that it pays the customer to buy a new replacement unit. In other cases, the cost of repair may be so great that it may be advisable for the customer to buy a replacement item. This means that we get 'first crack' at selling a

customer replacement equipment through our service department."

Service Parts does not have much of a problem in moving used equipment when it is turned in as a trade-in unit. There are many customers who are seeking automotive equipment for occasional use—just as there are customers who are seeking equipment with strict economy in mind. Reconditioning this equipment and placing it in the showroom helps to move it out almost as quickly as it is ready for re-sale. This equipment is also listed in the firm's direct mailing to its three hundred fifty regular monthly accounts.

"We recently had a customer bring a charger in which needed repairs that amounted to \$50.00," points out Tenner. "We pointed out to the customer that rather than make this investment in the piece of equipment that they ought to buy a replacement item which was retailing at \$125.00.

Manager instructs customer on proper use of new equipment. He mentions that when service is needed, jobbers service department can handle it promptly.



THE

PULSE

OF

AUTOMOTIVE

BUSINESS

Automotive Wholesaler's Sales and Inventories

Data from the Bureau of the Census, Dept. of Commerce

Region	Per Cent Change in				
	Sales		Inventories		
	Nov. 1960 from Nov. 1959	Nov. 1960 from Oct. 1960	11 Mos. from 11 Mos. 1959	Nov. 1960 from Nov. 1959	Nov. 1960 from Oct. 1960
New England.....	0	+6	+2	...	-7
Middle Atlantic.....	-6	-10	+3	+5	0
East North Central.....	-3	-11	+1	-1	0
West North Central.....	+1	-2	+2	+2	0
South Atlantic.....	-4	-6	+1	-1	-1
East South Central.....	-4	-3	-4	+5	+2
West South Central.....	...	+2	-8	...	-2
Mountain.....	+9	-4	+4	+5	-4
Pacific.....	...	...	...	...	...
United States.....	+6	-4	+8	+7	-2

Monthly Sales of Automotive Jobbers incl., Tire and Tube Wholesalers*

All Data Are in Millions of Dollars

Month	1960	1959	Per Cent Change
Jan.....	\$ 374	\$ 352	+ 6.15
Feb.....	383	333	+15.01
Mar.....	418	375	+ 9.87
Apr.....	448	392	+14.54
May.....	443	389	+13.88
June.....	469	429	+ 9.32
July.....	427	419	+ 1.91
Aug.....	472	405	+16.54
Sept.....	467	428	+ 9.11
Oct.....	469	439	+ 6.83
Nov.....	450	429	+ 4.90
Dec.....	...	379	...
Total—Year.....	...	...	...
Total—11 Months.....	\$4,821	\$4,461	+ 8.07

* Estimated by the Bureau of the Census.

Monthly Sales of Franchised Car Dealers*

All Data Are in Millions of Dollars

Month	1960	1959	Per Cent Change
Jan.....	\$ 2,577	\$ 2,531	+ 1.81
Feb.....	2,670	2,450	+ 8.98
Mar.....	3,038	2,921	+ 4.00
Apr.....	3,120	2,492	+25.20
May.....	3,054	3,033	+ 0.69
June.....	3,075	3,198	- 3.85
July.....	2,467	2,903	-15.02
Aug.....	2,615	2,772	- 5.66
Sept.....	2,324	2,305	+ 0.82
Oct.....	2,688	2,856	- 5.97
Nov.....	2,654	2,284	+16.20
Dec.....	...	2,177	...
Total—Year.....	...	\$32,472	...
Total—11 Months.....	\$30,282	\$30,295	- 0.04

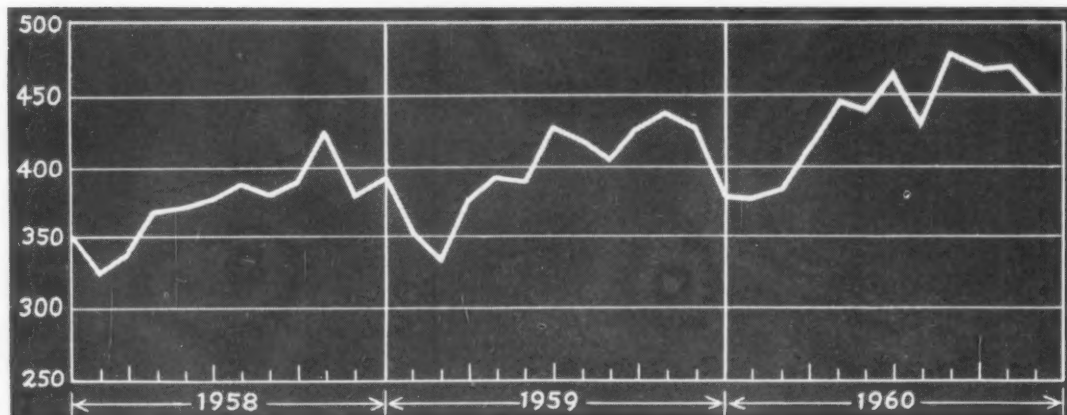
Monthly Sales of Gasoline Service Stations*

All Data Are in Millions of Dollars

Month	1960	1959	Per Cent Change
Jan.....	\$ 1,356	\$ 1,282	+ 5.77
Feb.....	1,286	1,197	+ 7.58
Mar.....	1,388	1,316	+ 4.85
Apr.....	1,457	1,348	+ 8.09
May.....	1,489	1,427	+ 4.34
June.....	1,325	1,450	- 8.17
July.....	1,587	1,516	+ 4.68
Aug.....	1,568	1,504	+ 4.26
Sept.....	1,471	1,419	+ 3.66
Oct.....	1,506	1,462	+ 3.01
Nov.....	1,451	1,433	+ 1.26
Dec.....	...	1,437	...
Total—Year.....	...	\$16,793	...
Total—11 months.....	\$16,064	\$15,356	+ 4.74

MONTHLY SALES OF AUTOMOTIVE WHOLESALERS— INCLUDING TIRE AND TUBE WHOLESALERS

(All Data in Millions of Dollars)



Name Changed

Name of the Jobber Division of Purolator Products, Inc. has been changed to the Warehouse-Distributor Division, as announced by John Bury, Sales Manager of the Division. The change, which became effective January 1, was made to more clearly define the functions of the Division.

Columbus Expands Facilities

"Because of the increased sales growth of Columbus shock absorbers, the manufacturing facilities at Dyersburg, Tennessee have been greatly expanded through new construction and machinery," said James Balough, sales manager of the Columbus Parts Corporation of Toledo, Ohio. Columbus Parts, a national supplier of shock absorbers, was formed last summer by the AP Parts Corporation as a wholly-owned subsidiary.

Global Development for Blackhawk

Blackhawk Mfg. Company, Milwaukee, Wisconsin, has expanded their program for global development as revealed recently by Philip G. Brumder, President.

Highlighting the program is the advancement of Fred T. Page to vice president in charge of international operations. Page, has been with Blackhawk since 1954 as director of commercial development. He will continue his responsibilities for this parent company operation, according to Brumder. Most of Page's business career has been in international operations.

Missouri Automotive Wholesalers Meet

At a meeting held in Joplin, Missouri, January 15, 1961, a set of by-laws was adopted and approved for the new Automotive Wholesalers Association of Missouri. Many plans for future activities of this newest state association were discussed. Wholesalers will receive an invitation to become members of the association in the next few weeks. They will be invited to attend an afternoon meeting in Jefferson City, Missouri, Sunday, March 19, 1961.



Pictured at a recent strategy session is the sales management team of Standard Motor Products, Inc. The group discussed merchandising plans for the company's Blue Streak ignition line and Jiffy Kit carburetor products. From left to right are: Phil Scales, Southern Regional Sales Manager; Steve Hall, Central Regional Sales Manager; Leo Stark, General Sales Manager; Dick Patterson, Western Regional Sales Manager; Ralph Free, Eastern Regional Sales Manager; Bernard Fife, President; Nat Sills, Vice president.

J. E. Echlin, right, President of The Echlin Manufacturing is shown with newly elected Vice President, H. T. "Dubie" Dubendorff. "Dubie," as he is familiarly known throughout the industry will continue to direct all sales for both divisions of the company—Echlin Ignition and United Brake Parts.



Mississippi automotive jobbers met in December in the state capital of Jackson to organize a state-wide association for the estimated 175 automotive jobbers in the area. During the program, arranged by the Automotive Service Industry Association, the benefits of state associations were explained by Richard A. Melvin, Executive Assistant, A.S.I.A., G. C. Morris, Executive Director, Automotive Wholesalers of Texas, and J. E. Wilson, Motor Parts and Supply Co., Houston, Texas. Temporary officers and directors selected to guide development of the latest state group are: President, Herman Crowder, Crowder Auto Parts, Columbus; Vice president, William Harwell, Harwell Distributing Co., New Albany; Treasurer, Frank Bryan, Bryan-Rogers Automotive, Tupelo.



United Motors Service recently sponsored the Delco Battery Hollywood TV contest. One of the national winners obtained her entry blank from Scott Ahearn Chevrolet, Inc. of Milford, Mass. As a result that company shared in the prize award. A check for \$2,000 was sent to the dealership and it was divided among the car dealers' employees. In the picture are some of those who are happy with the results. From left to right are: William Scott, partner in Scott Ahearn, Inc., Ray Ehler, United Motors Service Boston Zone Manager, Ed Robbins of Standard Auto Gear Company in Milford, and Vincent Ahearn.

Gould-National Plans Wilkening Stock Purchase

Mr. Albert H. Daggett, Chairman of Gould-National Batteries, Inc. reports the first half of its current fiscal year had higher sales, greater profits and a larger profit per share of stock than for the corresponding period of last year.

Gould-National reports reaching an agreement to purchase the capital stock of the Wilkening Manufacturing Company of Philadelphia, Pa. Wilkening is a well-established manufacturer of piston rings under the names "Wilkening" and "Pedrick" with annual sales of about \$5,500,000.

Gould's agreement to purchase the Wilkening stock is contingent upon approval of the transaction by the United States Government.

Calif. Jobbers Elect Pres.

The 3rd annual convention of the California Automotive Wholesalers' Association was climaxed by the election to the 1960-61 Presidency of Mr. P. Ted Johnston (Motor Parts Depot, Los Angeles).

Continue "Giveaway" Program

Because of its popularity with dealers and wholesalers, the Fram Corporation "Million-Dollar Giveaway" program will be continued until June 30, 1961, according to Robert T. Kosten, vice president in charge of Wholesaler Sales for Fram. In addition, many new gift items have been added to the array from which dealers may make their selections.

I.A.S.I. Show Expects New Attendance Record

The International Automotive Service Industry Show will be held at the Los Angeles Memorial Sports Arena, February 16, 1961. This gigantic international exhibition of automotive service parts, accessories, tools, equipment and supplies will be presented by Pacific Automotive Show. J. K. Wilkinson, Pomona Motor Parts, Pomona, Calif., is show president for 1961.

The countdown begins Feb. 13-14. Occasion will be the Automotive Booster Club International convention at the Statler-Hilton Hotel in Los Angeles. Also the Automotive Service Industry Association (ASIA) convention at the Biltmore, Feb. 14-15.

On the 13th, ASIA will also conduct a warehouse distributors breakfast, a luncheon for past presidents, a membership reception and a dinner for parts rebuilder members. Motor & Equipment Manufacturers Association will hold its annual banquet on the 14th. The entire week of February 12-19 will be declared "Automotive Service Industry Week" by Mayor Poulson of Los Angeles.

The Show slogan is, "The Big ONE in '61." There are many reasons for this bigness, Show officials point out.

To realize the tremendous scope of such an event, the visitor must visualize more than a thousand booths filling the Sports Arena and overflowing into Portico Annex. These will be filled with the newest products of automotive parts manufacturers throughout the country and visited during the four-day exhibition by wholesalers and warehouse distributors from the U.S., Canada, Mexico and more than 30 foreign countries.

During the big trade days (beginning at 6 PM on February 17), thousands of key personnel from the retail service trades in the West Coast area will also be admitted.

MEMA 1961 Officers

At a meeting of the Motor and Equipment Manufacturers Association Board of Directors in Coral Gables, Florida on December 8, the following were elected. President, F. L. Bredimus, Globe Hoist Company, Philadelphia, Pa.; Vice President, G. H. Goehrig, Blackhawk Manufacturing Company, Milwaukee, Wisc.; Secretary, S. S. Gordon, Republic Gear Company, St. Clair Shores, Mich.; Treasurer, Charles H. Seibert, Behr-Manning Company, Troy, N.Y.

A.W.O. Convention Plans Complete

Final arrangements have been made for the Automotive Wholesalers' of Oklahoma 7th annual Convention and Booth Conference, Tom Moxley, Auto Parts and Machine, Oklahoma City,

A one million dollar contest highlighted by a first prize of an airliner and crew for personal use anywhere in North America has been developed by Champion Spark Plug Company. The "Trip of a Lifetime Contest" is geared to attract motorists, service station operators and attendants, garagemen and salesmen selling to retailers. It will offer 1160 prizes to motorists and duplicate awards to dealers and to salesmen. First



prize winner may fly a party of 11 relatives and friends anywhere on the continent over a two week vacation. Besides the use of the airliner and expert crew, he will receive \$5,000 (tax paid) spending money.

Convention Chairman announced.

The Zebra Room, Oklahoma City Municipal Auditorium has been selected as the site. The Black Hotel in Oklahoma City has been selected as the Headquarters Hotel.

Extended Lifetime for Dowgard

The Dow Chemical Company announced recently that it has extended the lifetime of Dowgard, "Full-Fill" coolant, which was introduced to motorists last spring. In an announcement by Garland G. Fritts, branch manager, at a sales meeting in Clare, Michigan, it was stated that users may now leave Dowgard coolant in their cars up to a period of two years time, rather than only one year as initially stated. This applies to 1958 and newer models.



John Norwood, Director of Advertising of Sealed Air Corporation has been selected as the 1961 Ad Man of the Year by the Advertising and Sales Club of Western Michigan. The club sponsors this annual award to recognize men who have given outstanding advertising service. A luncheon in his honor was given on February 8. During the program he received the Silver Medal Award from the Advertising Federation of America. The luncheon was part of the activities marking National Advertising Week, Feb. 5-11, 1961.



Feb. 14, 1961—General Membership Meeting, Automotive Affiliated Representatives, Biltmore Hotel, Los Angeles, Calif.

Feb. 14-15—Automotive Service Industry Association national convention, Biltmore Hotel, Los Angeles, Calif.

Feb. 16-19—Pacific Automotive Show presents ASI Show, Sports Arena, Los Angeles Memorial Coliseum, Los Angeles, Calif.

Feb. 18-26—Chicago Auto Show, Chicago Exposition Center, Chicago.

Feb. 22-26—11th Annual National Autorama, Connecticut State Armory, Hartford, Conn.

March 13-14—Louisiana Automobile Dealers Association, Roosevelt Hotel, New Orleans.

March 20-22—Motor Vehicle Maintenance Conference, Univ. of Washington, Seattle, Wash.

March 26-28—Iowa Automobile Dealers Assn. Meeting, Hotel Fort Des Moines, Des Moines, Iowa.

April 13-15—43rd Anniversary National Truck, Trailer & Equipment Show, Great Western Exhibit Center, Los Angeles, Calif.

April 23-25—Automotive Trade Assn. of Virginia meeting, John Marshall Hotel, Richmond, Va.

April 27-29—Upper Midwest Automotive Trade Show's Service Clinic, Minneapolis Auditorium, Minn.

May 11-13—Pennsylvania Automotive Assn. meeting, Hilton Hotel, Pittsburgh, Pa.

Motor Age's

WHO'S WHO



Albert S. Burgoyne has been appointed vice president and general manager of Chicago-Latrobe, cutting tool manufacturer and a division of United-Greenfield Corporation.



Waldo V. Tiscornia has been elected president and general manager of Auto Specialties Manufacturing Company. He joined the company in 1917 and has served as executive vice president and assistant general manager. He succeeds his brother, James W. Tiscornia, who passed away in December.

William B. Rose has been appointed sales manager for the Automotive Shock Absorber Division of Armstrong Hydraulics.

Arthur Kelly, executive vice president of The B. F. Goodrich Company has been elected a member of the company's Board of Directors.



R. Warren Aldridge, Jr. has been named Florida division manager for Van Norman Machine Company (automotive division). He will be in charge of the sales and service of the company's automotive equipment in the Florida area.



James L. Taylor has been appointed new territory manager for The Columbus Parts Corporation. His territory will be in northwestern Ohio and Michigan. Company is the shock absorber subsidiary of The AP Parts Corporation.

M. L. (Larry) Poulk has been appointed assistant sales manager for the Eis Automotive Corporation's Midwest division. His territory will include N. and S. Dakota, Neb., Kan., Minn., Wisc., Ill., Ind., Ohio and Mich.



William A. Raferty, left and **Jerome H. Prodoehl** have been appointed vice presidents of Signal-Stat, automotive lighting and safety equipment firm.



Robert C. Heston has been advanced to service manager of Blackhawk Automotive Division. He will be responsible for all activities relating to Blackhawk Automotive's service operations, including all franchised service depots across the U.S. and Canada.



Richard L. Carpenter has been appointed manager of the Dallas Service & Training Center of Eutectic Welding Alloys-Southwestern Division, Inc.

S. R. Zimmerman, Jr., has been appointed executive vice president of Raybestos-Manhattan, Inc.

William H. Shinn has been named general manager of the Gunitite Foundries Division, Kelsey-Hayes Company.

Ross E. Nielsen has been named assistant manager of Champion Spark Plug Company's Automotive Technical Services Department.



Edward B. Maire, has been appointed general manager of Robertshaw-Fulton Controls Company's Bridgeport Thermostat Division at Milford, Connecticut and assistant vice president of the corporation.



Bernard E. Wall has been named a territory manager of the AP Parts Corporation. His territory will be in Louisiana and Southwest Mississippi.



Harold E. Myers has been appointed advertising manager of Weaver Manufacturing Division of Dura Corporation. He has served as assistant advertising manager at Weaver since October, 1960.

newscoop

*Imported Car Sales Drop
Vehicle Registrations Climb
Dual Exhausts Fading Out
More 4-Cylinder Engines
Nation On Wheels
Interstate Highway Program
AMA Conducts Survey*

In the days ahead HERE'S WHAT TO LOOK FOR !!!

(Items gathered and edited by Ed Janicki, Bill Montgomery and Neil Regeimbal)

New Automatic Transmission For '62 Chryslers

CHRYSLER READING NEW AUTOMATIC TRANSMISSION for introduction of 1962 cars.... Unit will be larger version of present six-cylinder Torqueflyte transmission, with 40 fewer parts to simplify maintenance.

Present plans are to use new transmission initially in Plymouth and Dodge.... It's expected to appear later on the Chrysler line.... Present Powerflyte transmission, first introduced by Chrysler in 1954, will be dropped.... More than 3 million Powerflytes have been produced since it was first brought out for the Imperial and New Yorker.

Factory Warranty Costs Zoom

NEW 12,000 MILE OR 12 MONTH WARRANTIES are expected to add new cost burdens to manufacturers.... More customers are coming in with petty problems and unreasonable demands.... Companies hope to combat this by watching quality more closely.

Companies feel quality eventually will overcome any additional service costs.... New efforts also are being made to spell out more clearly in warranties exactly which items are covered and which ones are not.... One company plans to clearly list in bold type items which "are not" covered by its warranty.

Warranty costs have been increasing over past five years.... Increased costs of labor and parts have been blamed for this upward trend.... One company notes that labor rates have been creeping up 10 percent a year over the past three years.... Changes to more liberal policies over years have also played big role in increasing manufacturers' costs.

Imported Car Sales Drop

THE AUTOMOBILE MANUFACTURERS ASSN. comes up with some interesting figures on imported car sales.... It notes that last year imports dropped below previous year during every month with exception of February and March.... During all other months percentage decline ranged from 2.6 percent in April to a whopping 60 percent in September.

Most of the decline in numbers, according to AMA, took place from July to October.... During that period imports fell 55 percent or more below the previous year.... Meanwhile, exports of passenger cars from U.S. plants jumped by about 17 percent.

Motor Vehicle Registrations Climb

MOTOR VEHICLE REGISTRATIONS in U.S. at end of last year climbed to 73.8 million, according to preliminary estimates.... Total included 61.5 million passenger cars and 12.3 million commercial vehicles.

California led all states.... It counted 7.7 million cars and 1.9 million commercial units.... New York came in second in passenger car registration.... Texas ranked second in commercial vehicles.

Sale of Seat Belts Discouraging

SO FAR SEAT BELTS HAVE NOT caught on with public.... Most drivers and passengers still refuse to wear them because they consider them a nuisance.... Car companies report that individual orders for seat belts are still discouraging.

However, there seems to be some different thinking on the safety aspects of seat belts among fleet operators.... National Safety Council, for example, reports that a sample made among members who operate motor vehicle fleets revealed that of the 85,156 cars, 43 percent were equipped with belts.

Dual Exhausts Fading Out

DUAL EXHAUSTS ON CARS are fading out.... They cost too much to replace.... Also many garages refuse to touch them because of the difficult labor involved.

Cadillac, first company to offer them as standard equipment, has discontinued them.... Chrysler has dropped dual pipes from several models.... It is making them available only in certain cases as an option.... Duals are still offered on certain high performance jobs.... But even these models are expected to be without them next year.

1960 Second Best Year Thanks To Compacts

1960 ended up as second best production year on record, thanks to compact cars.... Auto producers turned out 7.9 million motor vehicles, an increase of 17.6 percent above 1959.... Year's output included 6.7 million cars.... This was topped only by the 7.9 million units turned out in record 1955.... This year got off to a slow start.... Last month (Jan.) car companies were scheduling only 485,000 cars.... This was lowest January in six years.

Compact cars accounted for increase in total production last year.... Had it not been for smaller cars, total automobile output would be down 2 percent under 1959.... There were 1.9 million compacts turned out in 1960 versus 785,112 the previous year.

Service Stations Do More Auto Repairs

AUTO DEALERS CONTINUE TO LOSE BACK SHOP business to gasoline service stations.... In last three years, notes NADA, service stations have increased their share of repair work from 26 to 30 percent.... Meanwhile, dealership service departments have dropped from 23 to 19 percent.

According to NADA, percentages of repair jobs done by independent garages and individual motorists have remained constant at 36 percent and nine percent, respectively.

More Four-Cylinder Engines Coming

FORECAST OF MORE FOUR-CYLINDER ENGINES was made by a panel of Detroit auto engineers attending a meeting of the Society of Automotive Engineers in Detroit last month (Jan.).... Pontiac Tempest is only U.S. car currently using a four-cylinder powerplant.... Other companies are experimenting with them.... You may see at least one more appearing in 1962 models.

New Transportation Planning Chief

CLARENCE D. MARTIN, JR., Santa Monica, Calif., Cadillac-Oldsmobile dealer, is new head of government's transportation policy division.... Mr. Martin, a member of NADA, was appointed by President Kennedy as Undersecretary of Commerce for Transportation.

New transportation planning chief, 44, is son of a former governor of Washington State, and was graduated from Harvard in 1938.... He studied law at University of Washington, was a Navy pilot in World War II, and is active in local civic and service groups.

White House says he will bring to his new post "a background of successful activity in business development and administration, real estate, investment financing, and farming."

Car Sales To Hold Steady In 1961

CAR SALES THIS YEAR WILL HOLD STEADY at 1960 level of 6.5 million.... Imports will remain at about the same level.... Production of U.S. factories will drop.... Current inventories will be reduced.... This is forecast of government automotive experts.... They say that U.S. production will drop 13 percent below 1960 (to 5.8 million, compared with 6.7 million last year).... However sales will remain steady with balance being made up out of current inventories.

Nation On Wheels

AMERICA IS STILL A NATION on wheels.... Travel on highways is continuing to increase.... Last year, motor vehicle travel hit 720 billion vehicle-miles.... It was up 3 percent over 1959, and about 9 percent from 1958.... Passenger cars account for 82 percent of travel; trucks for 17 percent, and buses the rest.

Average car goes 9,529 miles a year.... It uses 666 gallons of gasoline, and gets 14.3 miles per gallon.... Forty percent of all travel is on main rural roads and highways and 46 percent on city streets, with the rest on local rural roads, U.S. Bureau of Public Roads reports.

Buick's New Power Pack

BUICK MOTOR DIVISION HAS DEVELOPED a power-pack for its new aluminum V-8 engine in the Special series which will boost horsepower from 155 to 185.... New option, which includes a four-barrel carburetor and other modifications, will give the lightweight Special one of the highest power-to-weight ratios of any American car, it was stated.... Compression ratio, with four-barrel carburetor, will be 10.25 to 1, instead of 8.8 to 1.... Option engine will be available on all Specials, whether they are equipped with an automatic or standard transmission.

Interstate Highway Program Needs Funds

COUNTRY WILL HAVE TO SCRAPE UP another \$11.6 billion to complete the 41,000-mile interstate highway program.... Government roadbuilders say program will still cost \$41 billion, as originally planned.... But Congress still has to put up final \$11.6 billion.... President Eisenhower, in his final budget proposal to Congress, urged that special gasoline tax be boosted another 1/2-cent to 4-1/2 cents, and retained through 1972 to finish program on time.... He opposed permitting vehicle excise taxes to be switched from general funds to the highway fund this June as scheduled.

Meanwhile, total federal and state funds available for highways are expected to climb half-a-billion dollars to \$12 billion in 1961, with \$8 billion coming from highway users.... Growth of compact cars will cut about \$500 million off what these taxes would otherwise bring.... Highway program is now under direction of Rex M. Whitton, former Missouri highway department chief, as the new head of the U.S. Bureau of Public Roads under Kennedy Administration.

Average Annual Income Climbs

AVERAGE ANNUAL INCOME for America's families and individuals climbed to all-time record levels in the 12 years from 1947 to 1959, the U.S. Census Bureau reports.... Median family income during period rose 80 percent, from \$3,000 to \$5,400.... Although much of this increase was due to inflationary trends, Bureau says there was "a substantial increase" of real purchasing power—averaging about \$120 a year.

Testing Smog Control Devices

CALIFORNIA HIGHWAY OFFICIALS will begin testing smog control devices March 1.... At least two devices will be tested for approval by state officials to meet a new state law which requires these devices on all cars in the state by 1965.

AMA Conducts Consumer Survey

THE AUTOMOBILE MANUFACTURERS ASSN. conducted its own little consumer survey at the recent National Automobile Show, with the aid of R. L. Polk Co.... While the results are not considered representative of the total population, they are nonetheless interesting.... We pass them on.

Why make compact cars any smaller?.... Nearly 70 percent of consumers participating in the survey thought they were "about right.".... Only 11.2 percent said they were "still too big.".... Fifty-seven percent of those queried said they would like to own one standard-sized car and one smaller-sized one.... Less than 25 percent indicated they would like to own two standard-sized cars.

What do they think about quality and workmanship on today's cars?.... There's still something to be desired apparently.... Only 15 percent rated both as "excellent.".... Forty-one percent said it was "good,".... Only 11-1/2 percent thought it "poor.".... Most said quality was most important factor in their decision to buy a new car.



THE SAFE DEED

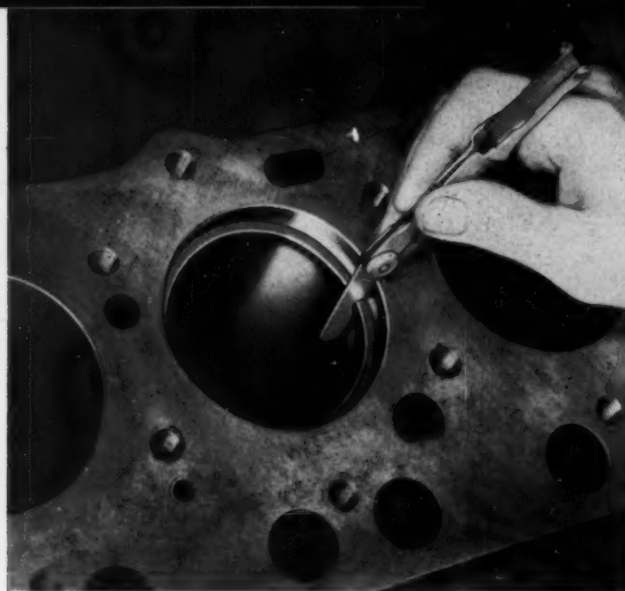
❑ Everywhere cars are dying by smashups. Everywhere we can help to alleviate this national problem. Everywhere there should be a control over vehicles which need inspection every so often—(meaning, at least once every six months). ❑ Mr. Colbert, of Chrysler, talked on this in California. He said, "Highway safety is inescapably associated with our industry. By taking an increasingly positive stand in favor of highway safety . . . we can push our industry up into a high place of honor in the national consciousness." ❑ That is the challenge; YOU are the man to do the deed.

CHECK CARS DAILY

❑ Every car you lay a hand on should be checked for safety. It matters not whether you do a tune-up or a brake job. It's a safety job, the life of your customer and the future of your business. ❑ Here's what Mr. Colbert said: "If anything is certain in our business, it is this—in the future the improvement of our product will probably be even more rapid than in the past. The important thing is to give every encouragement to engineering innovations aimed at vehicle safety. ❑ "All of the familiar safety features we have today, things no driver would be without, were once looked upon as interesting new gadgets. ❑ "Gadgets are dead in this business." ❑ Thereafter, comes your deeds. You are the man to perform the deed of keeping cars in safe operation. Sell cars—sell TBA—sell maintenance—but, above all, a safer way to run an automobile.

Faithfully yours,

Frank P. Tighe



Left: Carburetor repair or clean-out kits are a must at tune-up time.

Above: Rings, pistons, bearings, valves and springs all wear as the Speedometer mileage builds up.

SPEEDOMETER

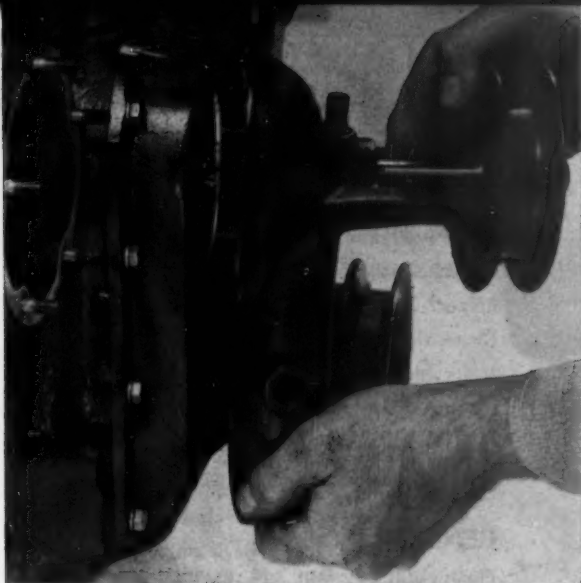
THE Automotive industry has embarked upon the era of the greaseless automobile and the 12,000 mile warranty. Many owners and too many servicemen seem to have developed a mental block with regards to the kind of care a car will now require. One thing for sure: They will still need the same care and attention lavished upon them in the past. Still, some owners will stick their foot to the floor and run the bottom out of their cars before they stop for service of any kind. Of course when they do stop for service, they'll really need it!

This type of owner was more than likely raised by a horse or wife beater, as such there's no hope for him. Thank goodness he's in the minority. It's the other fellow that makes life worth living.

Your customer then will appreciate your interest and advice in helping him maintain his car in tip-top condition. His car isn't a luxury. In many, many areas it is his sole means of transportation to his place of employment. It's an essential phase in his struggle for a living. With today's industry moving to the suburbs more and more he must use his car. The mileage build-up on his vehicle is such that he is unaware of its rapid increase. With today's freeways and turn-pikes it doesn't take long to ring up high mileage on the speedometer.

You Must Sell Service

Your business still depends on your ability to sell and do the kind of service your customers want and demand. One solid, time-



Water pumps wear and erode as mileage builds up. Replacement cures em.



Brake systems should have frequent inspections and are easy to sell.

By Frank P. Tighe and Terence J. McCabe

SELLING

Today's drivers build up mileage rapidly. Underscore it for high profits by Speedometer Selling!

proven method is the use of SPEEDOMETER SELLING. Examine the speedometer reading on your customers cars as an indicator of the type of service your customers should be ready for.

Check those door-post stickers, or ask the owner how many miles has it been since he last had his drive shaft bearings repacked? Most owners can't give you a direct answer as to mileage between service periods. It's up to you to grab the bull by the horns and say, "better let us take care of this for you sir."

Continued on next page

Test equipment coupled with Speedometer Selling a sure way to high profits.





**EVERY 5,000 MILES
OR TWICE YEARLY**

Lubricate chassis
Change crankcase oil, renew oil filter
Check rear and transmission oil
Clean and oil carburetor air cleaner
Service crankcase vent valve and filters
Check power steering oil level

GENERAL

Tighten all body and sheet metal bolts
Check shock absorbers, bounce method
Minor brake adjustment
Check automatic transmission oil level
Switch tires and balance wheels
Check brake lining
Touch up rust spots, apply preservative chemicals to car finish
Minor tune-up
Clean fuel pump filters and carburetor
Replace disposable gasoline filters
Check anti-freeze or yearly coolants



**EVERY 10,000 MILES
OR YEARLY**

Lubricate chassis
Change oil and filter
Repack front wheel bearings
Inspect brake linings
Check shock absorbers, bounce method
Major tune-up
Clean positive crankcase vent valve
Check emergency brake
Check stop and signal lights

GENERAL

Flush cooling system, add rust inhibitor
Install premium coolants
Check front end alignment
Adjust automatic transmission bands
Check battery and charging system
Adjust clutch and brakes
Switch tires, balance wheels
Check windshield wipers and washer unit
Lubricate hand brake cables
Check universal joints
Drain and flush hydro-electric system

Tell him its good insurance against a drive shaft breakdown on the road. Perhaps a chart with the number of times a particular part operates every 10,000 miles would help close the sale on many service items. As an example: speedometer cable rotates 10,000,000 time in 10,000 miles, spark plug cables will have delivered 1,350,000,000 volts, valves will open and close 15,000,000 times and contact points will have opened and closed a total of 90,000,000 times in 10,000 miles.

Practically every service operation on a car can be sold by using the SPEEDOMETER as a selling guide. Especially those service operations that the customer and the mechanic cannot see readily. These could be the switching

of tires to the selling of a complete engine overhaul. Normally, the service is sold that is visible evident to both the customer and mechanic. Tire switching when the tires have been cupped or worn irregular, engine overhaul when smoking or knocking are in evidence.

Educating your service people and your customers to think in terms of speedometer mileage can result in many more dollars of profitable work for your service operation.

Besides using the verbal approach to SPEEDOMETER SELLING, set up a mileage follow-up system for all of your customers. There are many good mail follow-up programs available to you from commercial sources.



EVERY 25,000 MILES

Grind valves, clean carbon
Overhaul distributor
Clean and adjust carburetor
Clean and check fuel pump
Replace shock absorbers
Check starter and generator brushes
Change automatic transmission oil

GENERAL

Repack universal joints
Pressure test cooling system and cap
Install new water hose and clamps
Inspect exhaust system piping
Pull all wheels, check drums, linings, hydraulic components and repack wheel bearings
Install new wheel seals, balance wheels
Tighten car chassis completely



EVERY 50,000 MILES

Re-ring engine—includes: grind valves, clean carbon, new wrist pins, new pistons or resize, new bearings, seals, valves and springs
Install new filters, gas, oil and air
Completely tune engine, test on dynamometer
Overhaul starter, generator, distributor and water pump; install new fan belts; test alternator
Remove radiator and clean, install new thermostats and gaskets
Install premium coolants for full protection

GENERAL

Check front end and rear end parts for wear; inspect tie rod ends, king pins, knuckle and ball joint supports; check for spring sag
Check tracking and front end alignment
Replace shock absorbers
Overhaul carburetor and fuel pump
Switch tires and balance wheels
Adjust automatic bands, change oil
Touch up rust spots and wax and polish car
Renew floor mats, seat covers and pedal pads

Then too, you can develop a system of your own by using a monthly chart or file system. Set it up so each month you would have a regular number of customers who in that time should be ready for a specific mileage service. The average driver does about 10,000 miles per year. A hand written post card to the owner reminding him that according to your records, his or her vehicle should have reached XXXXXX number of miles and thus, should take advantage of the special service you have to offer.

Explain that a little care now can save many dollars later on in expensive repair bills. If you train your customers and your men to think in terms of mileage repairs, you'll reap

a rich harvest in service volume and satisfied customers.

These in turn always result in filling the till to the top. Remember, to establish a thorough mileage maintenance program based upon vehicle mileage as indicated on the speedometer, you must let your men and your customers know what should be done at each mileage interval. To assist you, in this article a list of service items that can be painted on large cardboard sheets is carried.

These can be displayed where all concerned should have easy view of their contents. Some operators even add the price of the general quick service operations to speed the acceptance of them by the customers.

Fundamentals for Tire & Valve Service

*Discussing techniques for complete
service for your customers on the
modern tubeless tires and their valves*

WHEN tubeless tires were first introduced to the motoring public in 1955 they were reviewed with a great deal of skepticism. Doubt was expressed as to whether they would be as reliable as the tube type tire. Little faith was placed in tubeless tires ability to hold air. Most repair men and service station attendants would only repair a tubeless tire by installing a conventional tube.

Part of the skepticism attached to the tubeless tire was justified, because at the time they were introduced there were many variations of the never-go-flat tire idea. Today the tubeless tires are the result of all the good features of their predecessors without any of the bad. The modern tubeless tire is almost the ultimate in trouble-free operation for the motorist.

Repairing Minor Leaks

If the reason for air losses is not immediately discovered, submerge the complete wheel assembly in a tank of water. Mark the tire rim at the point where the air is escaping. On tubeless tires do not use hammer or tire arms. Apply a liberal amount of rubber lu-

bricant or thin vegetable oil soap solution to both beads and remove the first bead, using a special machine. During this operation of breaking the beads away from the rim and removing the tire from the rim, take special care not to damage the sealing ridges along the tire beads.

Various repair kits are available for repairing tubeless tires and they all accomplish the same purpose. Always examine the rim flanges for sharp dents. Any dent visible to the eye should be straightened. Also check for loose rivets around the wheel. They should not be brazed, welded or peened. Check the tire for loose strings of rubber and remove if necessary. Prepare the rim by rubbing with coarse steel wool or emery cloth, removing all oxidized rubber, soap solution, rust, etc. If rim is badly pitted a file can be used. When mounting tire, apply a liberal amount of vegetable oil soap solution or approved rubber lubricant to rim edges and tire beads. Mount the tire and the wheel with the valve whole side up, using steam method.

Don't forget the important part the tire valve performs. Valves have but one purpose,

Continued on page 46



Tire is tested before and after mounting to uncover leaks at the rim and casing.



Clean punctured area thoroughly before inserting repair plug.

Repair plugs are furnished with a wire to pull them in place.



Surface is roughed up and cement applied before pulling plug in place.

Pull repair plug in place and cut off flush with tread.





Special gun used for repairing small leaks without removing tire from rim. Cleaning rim with emery paper will guard against leaks at valve stem.



Rolling this tool over patch insures proper adhesion. Apply special lubricants to tire head and rim. This will let tire bead snap into place easier.



TIRES AND VALVES SERVICE

to provide access to the compressed air that supports the tire via gauging, inflating, deflating. Any valve design or installation that discourages accessibility for these vital services will seriously impair the life of the tire and eventually the safety of people who ride on them. Tires must be air serviced from any air line encountered, therefore, it is most important for the valve stem and core to be in good condition.

As a safety factor a new valve should be installed each time a new tubeless tire is installed. Many drivers are running with valves which have already served the full service life for which they were designed. A second

life in a new replacement tire or retread is asking far more of a tire valve than is expected of the original tire itself.

Tubeless Tire Valves give reliable service for the life of the tire, but not for the life of the car. The standard tire valve has been designed and built to outlast the finest tire.

Age of rubber affects elasticity. Rubber eventually loses its characteristic elasticity when it remains static for long periods of time. Since tubeless tire valves are metal inserts covered with rubber the seal to the rim depends on a pliable rubber base. Leaving the original valve in the rim for service with

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Ideas for the Service Department

ZIMMERMAN's of St. Charles and Geneva, Illinois, have a service department in connection with their sales display rooms. They have had several ideas which they feel are well worth mentioning with respect to cementing customer relationships.

Zimmerman's have each purchaser of a new or used car fill out an "Information Please" card on which is their name, address, birthday (month and day only), favorite hobbies, number of children in the family, their names and ages. Also the use to which they intend putting their car (business, pleasure, or both). On the card the customer is asked to indicate if husband and wife share use of the car. All of these questions are asked for a very definite reason.

Birthday Cards Sent

These cards are checked painstakingly. Birthday cards are sent to the car purchaser, greeting cards especially designed and definitely not "cheapies." At Christmas-time a Christmas "gift basket" is sent all who have purchased cars during the past year. The basket includes a pack of cigarettes, candy for the children, pot holders for the wife's usage, an automatic pen and pencil set, items with a total value of \$2.50 or so. The cost is well justified, says Zimmerman's, in view of the fact that customers have expressed their appreciation over both the birthday and Christmas remembrances.

Zimmerman's also have an interesting promotion. They have the "Just Turned Fifteen

Club" open to all boys and girls fifteen or over who come in and register, filling out a card with their name, name of parents, and the make of car the family possesses at present.

Holds Drivers Clinics

Zimmerman's then holds a Drivers Clinic every Saturday for two hours. Youngsters attend and receive individual instruction from expert mechanics, both in the art of driving safely and sanely, and in learning a little about the mechanics of a car. Each student pays 50 cents for this session.

Parents, as a rule, dislike teaching their young sons or daughters how to drive and this course lasts six full weeks before starting over again. Young drivers "graduating" receive a diploma and a credit slip worth \$10 towards purchase of any used automobile.

Teen-Age Corner Set-up

Zimmerman's has a Teen-Agers' Corner in both of its showrooms. Here are cars which are safety tested but which may not look like much-appearance wise. Youngsters care little for appearance, but place a high premium on performance. Some of the cars need a bit of tinkering with-but brakes, etc. are checked before they are assigned a "berth" in this corner.

Newspaper advertisements have a section "Cool Crates" which list every week or two "New Arrivals" in this category. Parents and teen-agers alike have shown considerable interest in this segment of the showrooms.



Assemble front shoes as a complete assembly. Retractor springs must be between shoes and back-plate.

After positioning shoes and "Micram" adjusters on anchors and wheel cylinders, pry lower shoe on.

By Terence J. McCabe, Feature Editor



Major brake service on the Morris Minor

THE Morris Minor manufactured by the British Motor Corp., is equipped with the Lockheed hydraulic brake system. It is a conventional type of hydraulic system which, of course, includes the master cylinder with the various hose and pipes required to operate the wheel cylinders in each wheel.

The master cylinder is located on the driver's side of the car under the floor board to the rear of the gas pedal. It has a conventional type filler plug and care must be exercised when filling any master cylinder. To check the fluid level, pull back the floor carpet and padding on the drivers side. Brush away sand sediment found around the area of the filler plug. Fill the master cylinder with an

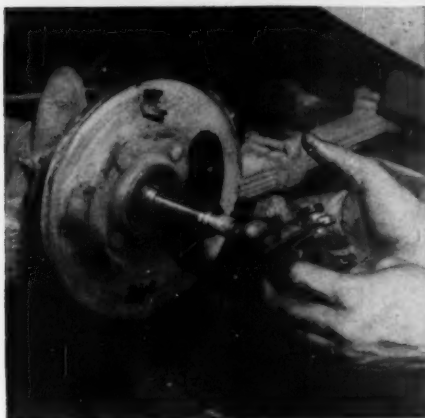
approved brake fluid to within one half inch of the top of the reservoir. Replace the cap and secure tightly. (Before replacing cap, check that vent hole in cap is not plugged with dirt. Blow out with compressed air.)

Procedures of Service

In servicing the brakes, jack up the car and place trestles under each of the wheel supports. The Morris Minor has a torsion bar, front suspension. It is best to place the trestles either under the box frame or under the suspension arms. Never raise car by jacking under torsion bars. Remove the hub cap, either by using a screw driver placed adjacent to one of the three pegs securing the

Releasing "Micram" adjustment before installing drum. Notice the spiral springs used to retain shoes to plate.

Lifting lever on rear wheel cylinder before inserting assembly into the oblong hole in brake backing plate.



These procedures can also be applied to the service of most BMC vehicles

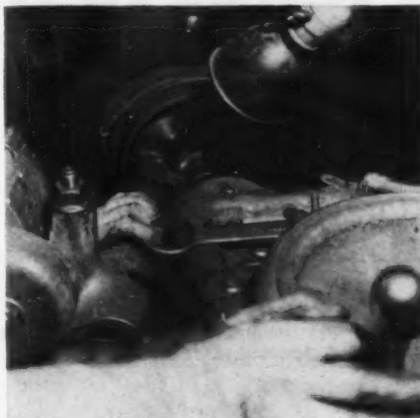
To adjust, insert screw driver and turn clockwise to tighten and counter-clockwise one click to release.

hub cap and twist the screw driver. You can also utilize the lug wrench supplied with the car which has a screw driver bit that can be used for hub cap removal. Remove the lug bolts (four). Remove the spindle dust cap, extract the cotter pin and castellated nut. Using a wheel puller similar to the type you would use in removing the rear wheels from a Chrysler car, apply it to the brake drum.

Move the fingers on the puller to utilize three bolts in the brake drum. Center the stud of the puller in the center hole of the spindle. Remove the wheel by turning the puller and gently tapping the end of the puller screw with a hammer until the drum and bearing

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Below: Conventional brake drum lathe is used to true-up drum.





Above: Dealers' mechanics attending classroom session in van.

Service training program takes to the highway

*American Motors Corp. is
putting on service training
techniques via 35-foot vans*

By Edward Janicki, Detroit News Editor

MOST car companies spend thousands of dollars to build service training centers for their dealers. The best of equipment goes into these schools. Instructors are topnotch. Yet, according to studies only 30 to 50 per cent of the service technicians take advantage of the courses offered by factories.

So when you hear about a company that has managed to draw better than 80 per cent of



Photo at left: C. M. Tillinghast, general service manager at American Motors, discusses itinerary of mobile training units with Fred Buck (right), service promotion and training manager.

Below: Picture of interior of one of the mobile training units. Classroom van extends thirty-five feet. Each trailer is fully lighted and air-conditioned for full comfort.

its dealers into a service training program, that's a rarity. The company with this service training record is American Motors Corp. How it achieved it is simple—it went direct to the dealer instead of trying to get the dealer to come to it. It puts its training schools on wheels.

The "wheels" are 35-foot van type trailers equipped with all the facilities for disassembly and assembly of any component found in an automobile. Designed to comfortably train 12 men at one time, the trailers carry hand tools, testing equipment, work benches, vises and a complete sound movie projection setup, in addition to sundry other items. Even actual components of an automobile are taken direct to a dealer's site. These are housed neatly in the sub-flooring of the trailers—items such as axles, transmissions, power steering units, power brakes, air conditioning parts and special tools. Each unit carries enough of these "props" to permit individual attention for each student. Each trailer is fully lighted, air conditioned.

So successful was the first mobile training



unit that within one year American Motors quickly added five more. Says Fred Buck, AMC's service promotion and training manager: "Response from our dealers has been great. The additional units lighten our job a little bit and we'll be able to get around the territory more often. We'll try to get around into each area at least three or four times a

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SMOG STOPPERS

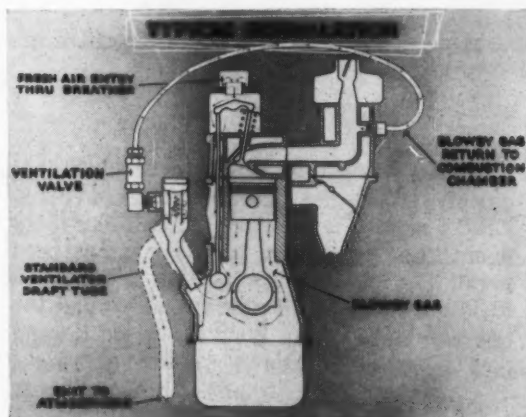
AFTER much controversy among air pollution experts in many cities, a measure of agreement has been reached concerning causes of big city smog. Various methods and means have been used to test the reasons for the presence of smog. Tests have indicated that automobile exhaust and crankcase emissions into the atmosphere contribute to a situation that can lead to smog. The items responsible for the condition are

called "olefinic hydro-carbons" and "nitrogen dioxide." These compounds, when exposed to sunshine in the correct proportions, produce smog.

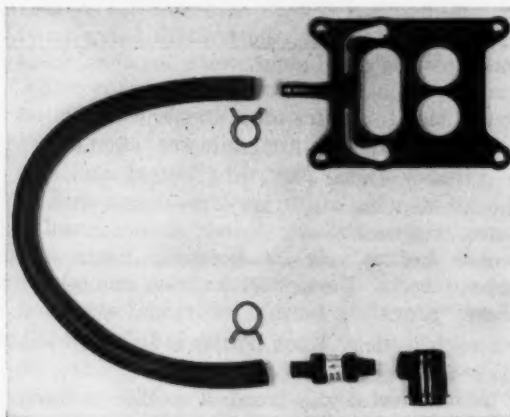
This process is called "photochemical stimulus." In other words, the reaction is triggered by exposure to the sun's rays.

It must be pointed out that not all unburned hydro-carbons found in air samples are from automobile emissions. But that proportion

Cross section of an engine with a typical closed type positive crankcase ventilation system. Note the flow control vent valve.



A complete adaptor kit is now available to convert engines to the new system of positive crankcase ventilation.



A report on what's being done to help control the unburned hydro-carbons in the air resulting from exhaust or crankcase emissions

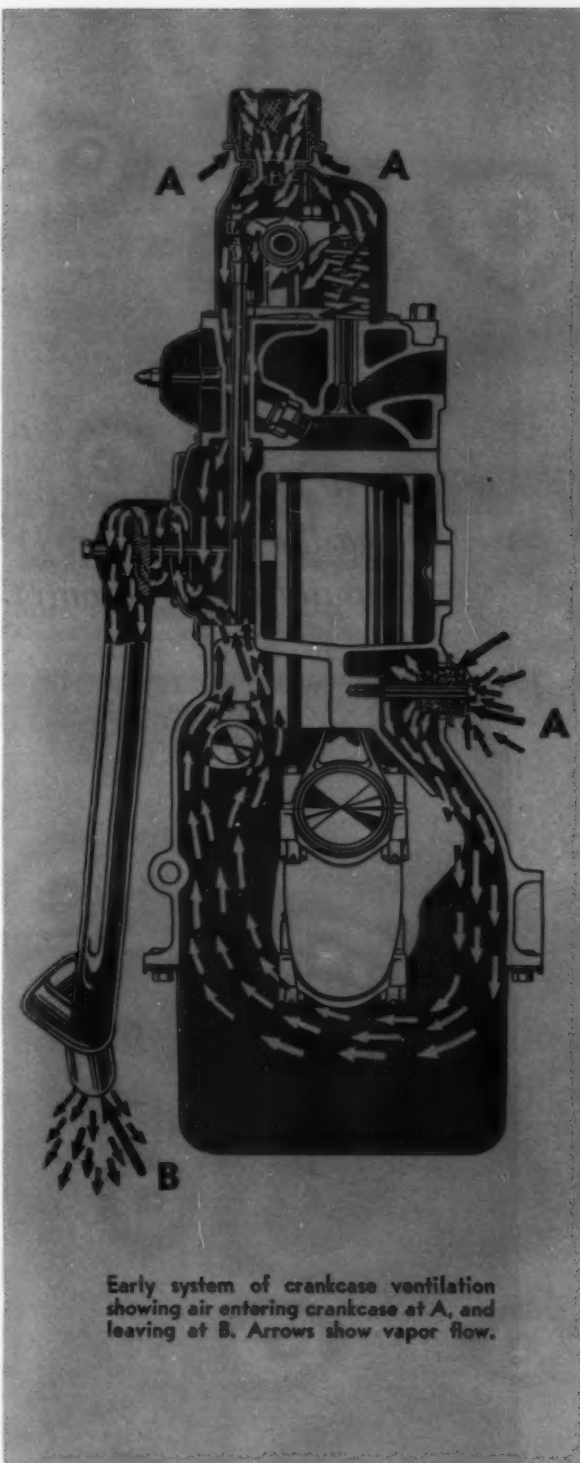
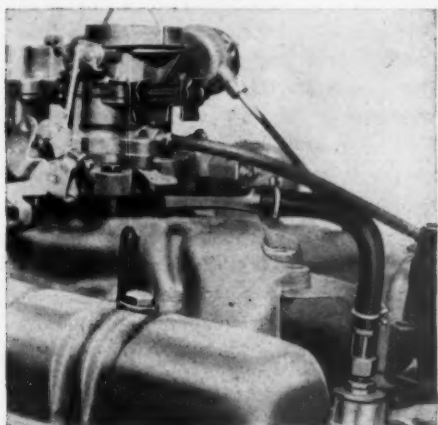
which does is large, and can be reduced in the opinion of many experts in the field. (California now has a state law designed to reduce these emissions.)

Two approaches to reducing emissions have been taken. The first deals with control of exhaust gas emissions; the second concerns control of crankcase gas emissions.

Three methods are currently being investi-

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Positive crankcase ventilation system installed on a typical V-8 engine. Note adaptor plate under the carburetor.

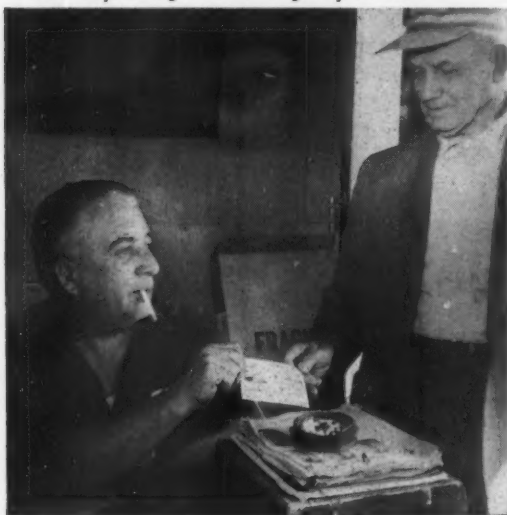


TOW TRUCK helps build shop profits

A successful auto and truck repair shop in Newtown Square, Pa. offers around-the-clock repair and towing service. It has built an enviable reputation for prompt service and good workmanship

By William M. Montgomery, News Editor

Joe Chandler, seated, gives each customer an emergency service card which lists 'phone numbers to call day or night for emergency service.



OFFERING 24-hour emergency car and truck towing service has boosted one repair shop's profits in the immediate area of Newtown Square, Pa. The owner friendly and enterprising Joe Chandler, knows the value of offering around-the-clock towing and repair service. He has a road service jeep and a specially-made heavy duty service truck that he designed himself. They stand ready for all emergency calls.

The truck originally weighed 6,300 lbs. After Joe got finished adding a 50 to 1 winch, welding equipment, acetylene tanks and road service heavy duty equipment it weighed more than 10,000 lbs. Chandler's auto and truck repair shop also has a portable welder on a trailer for emergency on-the-street jobs.

Joe Chandler has been in the auto repair business for over thirty-five years. He started his own repair business in the little

country town of Newtown Square, Pa. fifteen years ago. The business had as its first customers the local farmers who dropped in now and then for small repairs for their cars, tractors or trucks. Business was very slow in the beginning. Joe said that on some days he was mighty lucky to bring \$10 back from a day's work in the garage. Then as his fame slowly began to spread he got more and more business.

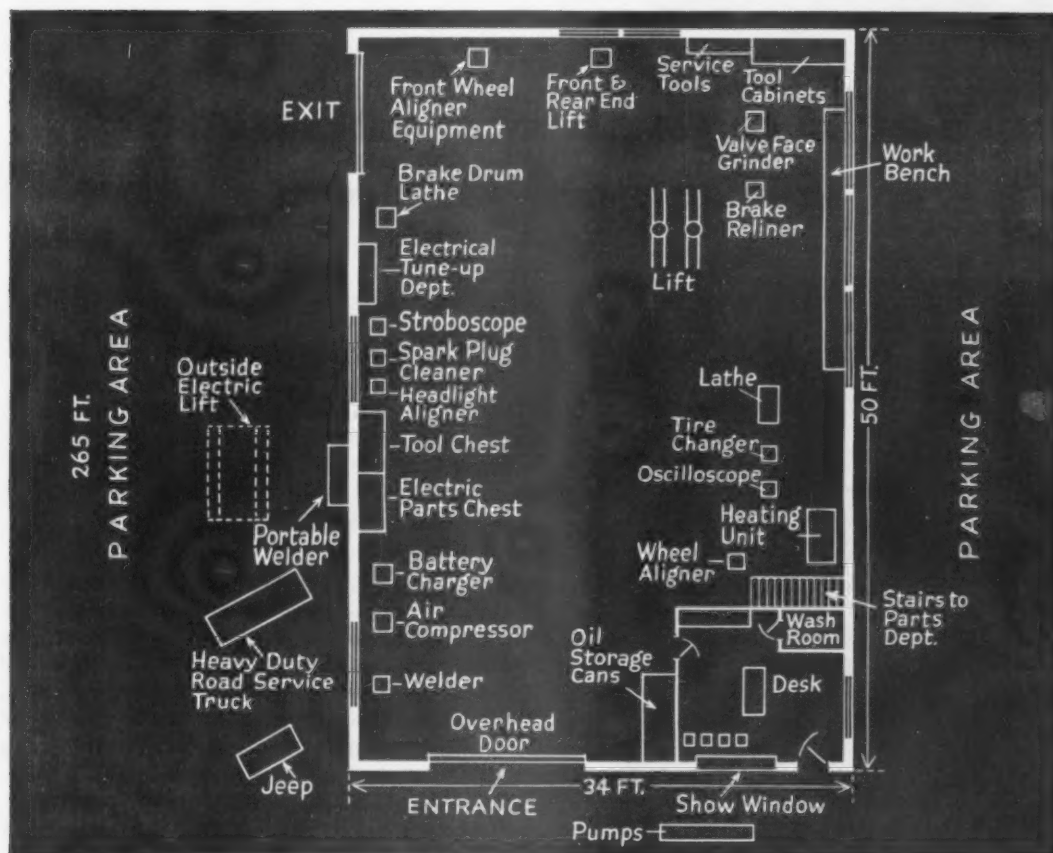
Joe is the friendly type and has a twinkle in his eye as he tells some of the experiences that he has had in the automotive repair field. He has worked on all kinds of cars and trucks and boasts the best equipped shop in the area.

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Chandler stands beside the specially equipped heavy duty service truck that he designed.

Below: Floor plan and equipment arrangement of Chandler's auto and truck repair garage.





After old threads are tapped out, the centering jig shown here will help mechanic tap the new slightly oversize threads into the cylinder head spark plug hole.



Using proper tool mechanic screws new thread into plug hole by engaging thread insert tang into tool's "notched end."

Techniques for repairing stripped threads

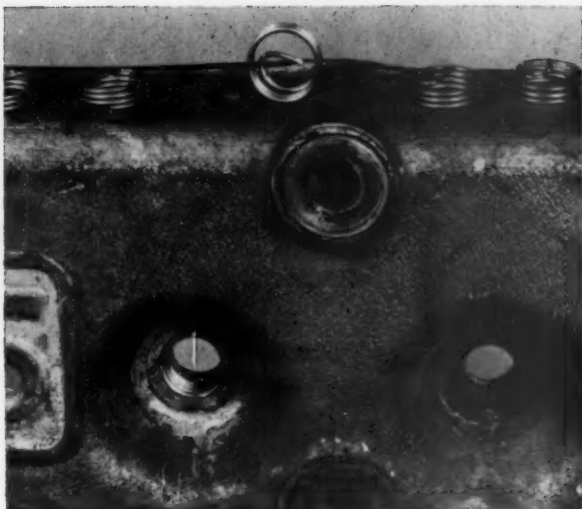
The advent of the Aluminum Engine now makes knowledge of this art mandatory

REPAIR shops and engine rebuilders are consistently running into the problem of bolt holes having stripped threads, especially on the new aluminum engine cards. If the proper size tap is not readily available, work is held up until a proper size tap is found.

Many of the engines received in this re-builder's shop have damaged spark plug threads, especially in the newer light-weight

aluminum cylinder heads. For the past number of years they have been solving this thread problem through the use of stainless wire thread inserts. That method of repair saves time, helps increase the shop's volume. In many cases, it actually saves a cylinder head, or a block from ending up in the scrap pile. Repairs made with thread inserts are fast, easy and permanent.

Here is how the repair is made on a spark



The plug hole at the left shows the newly installed insert as opposed to the unthreaded hole at the right. The insert on top of block shows "tang" to be removed.

plug port in an aluminum cylinder head:

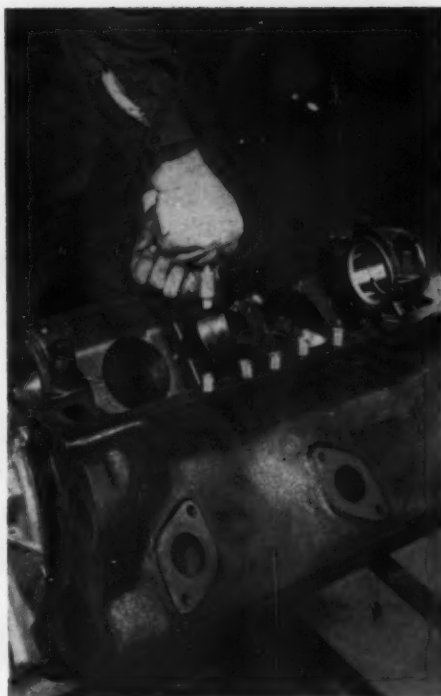
A centering jig is bolted onto the head using one of the existing headbolt holes and headbolt. Then, taking the special oversize tap from the repair kit, slightly oversize threads are tapped in the plug port. (This differs from general kit instructions inasmuch as they say to drill out old threads first. Material covered here is how one particular shop does the work after considerable experience with these kits).

Next, a thread coil is inserted onto the barrel of the inserting tool and the handle of the tool screwed down, which in turn screws the thread coil into tapped plug port, locking it in position. The thread coil is slightly oversize so that as it engages the tapped threads, it is compressed, exerting enough force to keep it installed when the installing tool is removed.

When the thread coil is in position, the small coil "tang" at the base of the coil must be broken off and removed. A special tang removal tool is contained in the kit for this step.

By referring to the photograph showing the "before and after" plug ports, the coil thread resting on the cylinder head clearly

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Inserts may be used in the block when main bearing saddle bolt holes become stripped or damaged.

The lawn mower engine shown below is in the process of having threads inserted into the cylinder head.



Volume in the Body Shop thru volume in advertising

Back to back cars give considerable customer attention to our name.



CONSISTENT advertising brings in a steady flow of business to John's Auto Body Shop, Wilmington, Del.

"We spend close to \$10,000 a year on advertising which we feel is the backbone of our ever-increasing business volume," explains John Debonaventura, owner. "Our name is constantly kept before the public which brings us a steady flow of traffic. Located as we are on the far West side of the city, we feel that we would only have a trickle of this traffic if we had to depend on customers seeking us out when they required our services."

"Our experience has been that regardless of where an auto body shop is located, suffi-



78 foot high neon sign is the greatest eye catcher and money maker.

Extensive advertising is the backbone of this shops ever-increasing business volume

cient advertising will bring it to the attention of all prospects requiring the services of this shop. It means a greater volume of business."

Debonaventura has another remark to make about advertising for a body shop. The more it is advertised, the more motorists feel a sense of reliability about the shop. Motorists feel that when a body shop is consistently advertising that the shop's proud of its workmanship.

John's Body Shop covers almost half of a city block area. It is advertised as Delaware's largest and most modern body and paint shop that does all its work indoors. Some of the jobs handled by this shop include: Complete rebuilding of wrecked cars, wheel alignment service, expert painting, baking enamel on automobiles and appliances, fender and body

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"Mobile Billboards" on buses offer monthly "package" specials.



Merchandising ideas for Successful Selling

By William M. Montgomery, News Editor

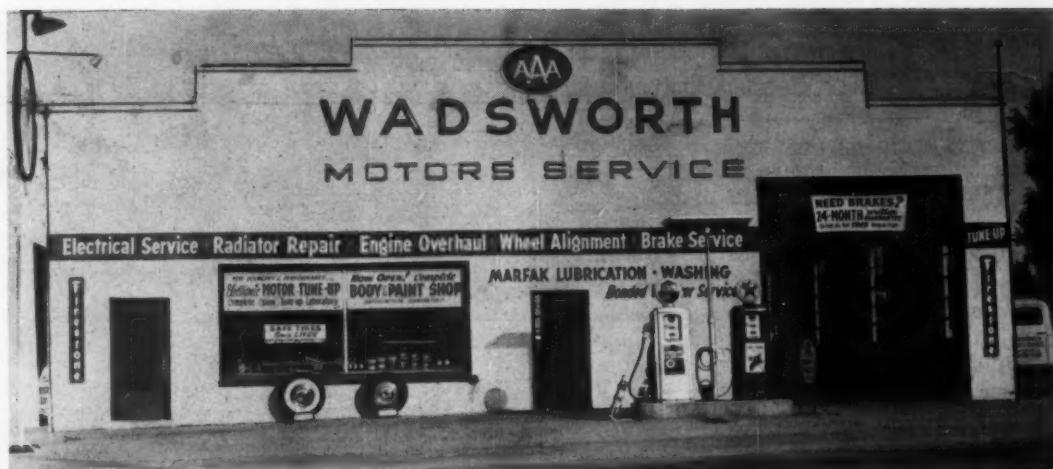
DO you want to stimulate your shop, dealership or service station's sales and services? Then take time out to analyze and correct any and all operations which are unprofitable or wasteful. Build a reputation for good repair work. This is important for the dealer as well as the independent shop. To do this the service department must be kept operating effectively and efficiently. One way to be sure that your shop or dealership is in a healthy condition is to give it a periodic check-up. Review all phases of

your service operation as often as possible.

In your review, check to be sure that the right man is on the right job. An analysis of the performance of the various jobs might uncover more profitable shifts in your shop personnel. Ask your men if they are satisfied doing the particular job or operation assigned to him. You may find that some of your men are dissatisfied and would do better work if shifted to another job category.

Another point in increasing profits is to check the tools and equipment in the service

BUILDING SIGNS SELL SERVICE—Let the building front of your shop or service station sell sales and services. Signs painted on the building will bring in new customers. List all the main services offered to the motorists. No shop front should be left completely blank. Signs cost so little and bring in such big cash returns. *Ernest W. Fair, Bristow, Okla.*



*Stimulate sales and service
by analyzing and correcting
unprofitable and wasteful
operations in your shop*

department. Are they adequate? Good mechanics go where they can work with good tools. Most service men have their own tools, but special equipment is always necessary to do a complete and up-to-par repair job. Trained mechanics prefer to work in a shop or dealership that has the latest in modern tools and equipment. These tools are important in handling particularly tough jobs in the service department. Qualified mechanics know about and want to use the latest equip-

Continued on page 114

LEAVE IT TO THE GALS—Help a women's club to raise money for charity by sponsoring a car wash. This also tells everyone what a good guy you are and builds goodwill. *M. J. Hite, New York, N. Y.*



PLOW IN PROFITS—During the snow months your shop or service station can make additional profits by offering snow plowing services. Snow plow will be in constant demand.

GOOD GROOMING MIRROR CHECK—Install a full-length mirror in the office or service department. Put good grooming reminders along side to call attention to these items.



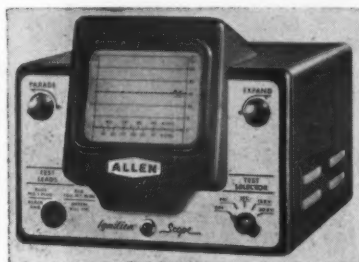


New Products Shopping Center

Ignition Scope

Provides more tests, fewer controls, simplified circuitry

Allen Electric and Equipment Co.: Two controls, three external connections, dial test selector are featured in the Allen $\frac{3}{4}$ Scope. Feature is the color-coded hook-up which calls for just three connections, made at the distributor. Use of an electronic locking-device insures pattern stability without adjustments of any kind, company states. As a result, there are just two controls, one for "pattern parade" and another for "pattern expand." These controls, plus a test selector switch, provide superimposed primary and secondary readings plus secondary voltage checks at 15 KV and 30 KV

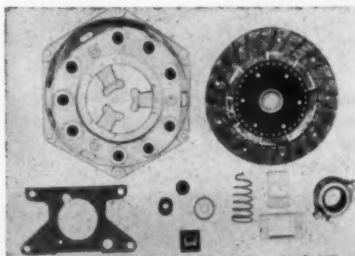


levels. Write: **Allen Electric and Equipment Co.**, 2101 N. Pitcher St., Kalamazoo, Mich.

Clutch Sets

Sets are mate and sealed

Accurate ReNu Clutch Division: Clutch sets are introduced that are mate and sealed, matched, tested for release and balanced. Pressure assemblies are re-manufactured and contain all new pressure settings. Heavy duty rivets, are re-ground to precision standards of proper thickness to a thousandth of an inch, com-



pany states. Write: **Herbert Schneider, Accurate-ReNu Clutch Division**, 168 N. Michigan Ave., Chicago 1, Ill., or 'phone Andover 3-7676.

Sav-T Jack

Features two-stage lift

Sav-T-Engineering Company: New improved Sav-T Jack air operated end lift is featured. It has a two stage lift, 1st stage—

43 in. and 2nd stage 62 in. Adapters for the wide contact



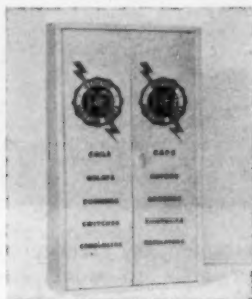
frame and unconventional compact models adapters are available, the company states. The post hoist lift is included as standard equipment. Lifting capacity is 5000 lbs. and it will lift all cars and flat bed trucks. It is self-servicing with no seals to break. Write: **Sav-T-Engineering Company**, 316 East Beach Ave., Inglewood, California.

Ignition Parts Cabinet

Can carry greater volume of stock

P&D Manufacturing Co., Inc.: CAB-12, Ignition Parts Cabinet is being introduced. The top shelves on the CAB-12 will accommodate 2 C-2 boxes lengthwise or a C-12 box containing 10

C-2 boxes. On the inside of each door there is a holder to accommodate catalogs, price sheets, inventory controls, etc. There is a lock on each cabinet. The most important change is the heavier gauge steel used in the manufacture of the cabinet, company



states. Write: Sales Dept., P&D Mfg. Co., Inc., 19-02 Steinway St., Long Island City 5, N.Y., or 'phone Ravenswood 8-1600.

Lower Ball Joint Assembly

Features reinforced seat and floating joint

Carlson Manufacturing Company: Model GMC 20 lower ball joint assembly for 55-57 model

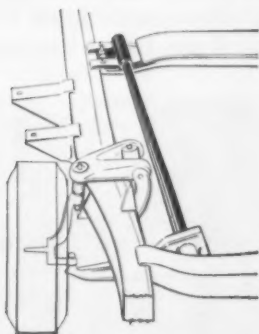


Chevrolets, 58-60 Buick and Pontiacs and 57-60 Cadillac cars has been announced. The unit has reinforced seat and floating joint. It includes several features which contribute to solving hard, noisy steering and front and

looseness as well as lengthening tire life, according to the manufacturer. Features include a grease fitting mounted on the top of the unit which assures lubrication to all parts; adjustment to take up future wear. An alloy floating seat and reinforced base gives strength necessary for easy action and longer life it is stated. Write: R. H. McCulley, Sales Mgr., Carlson Mfg. Co., 1890 So. Cherokee St., Denver 23, Colorado, or 'phone Race 2-5775.

Torsion Bars

Designed for Chrysler made cars



Thompson Products Replacement Division, Thompson-Ramo-Wooldridge, Inc.: Company's Torsion Bars are made from chrome-manganese alloy steel that is heat treated, shot-peened, Magnafluxed and enameled for protection against corrosion. Each bar is designed for its side of the car. It is preset for right or left side installation. Bolt and Swivel Kits feature a free turning mechanism that permits adjustment of torsion bars for correct front end height. The replacement Seal Kits provide protection against corrosion. Write: Thompson Products Division, Thompson - Ramo - Wooldridge, Inc., 6402 Cedar Ave., Cleveland 3, Ohio, or 'phone HENDERSON 1-6765.

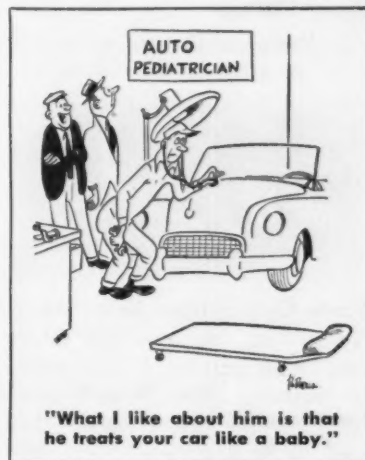
New Type Picks

Easier body work in hard to reach areas



P-F Automotive Division, H. K. Porter, Inc.: New type of picks for body work has been announced. They enable a body man to get into many difficult areas. These new P-F picks have non-slip, grease and oil-resistant plastic handles. Picks have a flat spot on the shank for holding or applying leverage with pliers or wrench. They come in three styles—an 18 inch Round Point Pick, a 12 inch Round Point Pick and a 16½ inch Chisel Point Pick. Write: A. L. Holmes, Mgr., Sales Service, P-F Automotive Division, H. K. Porter, Inc., Somerville 44, Mass.

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New Products Continued from page 63

Oil Pressure Switches

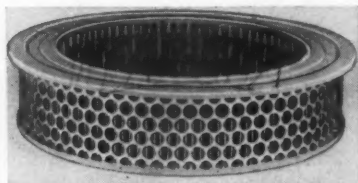
Calibrated in three ranges



Standard Motor Products: A new line of oil pressure switches is introduced. They are said by the manufacturer to be calibrated in three different pressure ranges. Company claims that its replacement switches will provide the car owner with the same protection against low oil pressure as the original units. To insure this claim the company tests every switch for correct calibration and high-pressure leaks. Write: *Norman Brust, Indus. News Division, Standard Motor Products, Inc., 37-18 Northern Blvd., Long Island City 1, N.Y., or 'phone EXeter 2-0200.*

New Filters

Designed to trap up to 40 percent more dirt



Fram Corporation: New "Wear-Guard" oil, air and fuel filters are being marketed. According to company new "Wear-Guard" filter construction is designed to trap up to 40 percent more dirt.

As regards engine air filtration, company states that it is offering "Wear-Guard" air filters with flame-proofed media 99 percent efficient to provide maximum engine air protection and to deliver top gas mileage. Write: *Fram Corporation, Providence 16, R.I.*

Brake Drum Lathe

Permits easy access to drum interior

Van Norman Machine Co.: A brake drum lathe is being marketed. Model 302 "Little Brute" Brake Drum Lathe, has a three-



inch revolving and sliding spindle to save set-up time. It permits access to the drum interior and gives rigid support to brake drums. It is ruggedly built for pleasure car and light truck work. Write: *Van Norman Machine Co., Division of Van Norman Industries, Inc., 3640 Main St., Springfield 7, Mass.*

Windshield De-Icer

Thaws glass surfaces and frozen locks

E. I. Du Pont de Nemours & Company: A spray can of new

Du Pont Windshield de-icer is being marketed. Kept in the glove



compartment for emergency use, de-icer goes to work speedily when needed on all glass surfaces, including headlights to improve driving visibility. It is also useful for thawing frozen locks and windows and for rapidly defrosting refrigerators and freezers. De-icer will not harm car finishes of any kind. Write: *Allan Perry, Room D-8167, Du Pont Co., Wilmington 98, Del., or 'phone Prospect 4-2000.*

Crankcase Additive

Increases viscosity index and film strength of oil

Casite Division of the Hastings Manufacturing Company: A new crankcase additive called Motor Honey, developed from a German formula for a 100 percent petroleum additive, is announced. Motor Honey, company claims, increases the viscosity index and film strength of oil. It stops oil pumping, increases oil pressure, quiets noisy engines, according to the manufacturer. It also reduces crankcase dilution by checking blow-by. Write: *Marshall H. Cook, Hastings Mfg. Co., Hanover St., Hastings, Mich., or 'phone Windsor 5-2492.*

Continued on page 86

Smog Stoppers Continued from page 53

gated to eliminate free hydro-carbons in the exhaust. They are all designed to replace the present muffler. They may cost from 4 to 12 times that of the present muffler system.

These systems are: direct-flame after-burner; high-temperature catalytic device; and a low-temperature catalytic device. In each case the object is to burn completely the free hydro-carbons or unburned fuel in the exhaust stream. These systems and their controls are still in the final stages of development. Heavy emphasis is being placed upon reducing the cost of the units to the car owner.

In the meantime, the next best is being accomplished. Action has been taken for immediate use of an inexpensive device for elimination of crankcase vent gases.

In the past crankcase vapors and gas have been purged into the atmosphere by means of a draft tube on the engine crankcase. This tube with its "kerfed" end is pulled along in the air stream by the forward motion of the vehicle. A draft or suction is created at the exit of the tube and thus crankcase gas and vapors are withdrawn from the crankcase. This system has been used for many, many years.

Originally, crankcase ventilation was used to prevent the condensation of moisture and fuel vapors in the crankcase. The moisture would cause the oil to congeal and form sludge. The fuel particles would act to dilute the oil. In combination with water, the fuel and oil would form sulphuric acid which further jelled the oil, producing sludge and gums. The acid would react against metal parts such as bearings, journals, pistons, valves, etc.

In addition, the acid had a hardening effect on valve springs which resulted in abnormal valve spring breakage. It can readily be seen that it is of the utmost importance to ventilate any internal combustion engine crankcase.

Two methods of ventilation are

available to engine designers. One is the open system with the natural draft tube, the other a closed system which feeds the vapors back into the engine cylinders to be burnt in the process of combustion.

The discharge of these vapors and gases into the atmosphere is now forbidden by law in the state of California, with the possibility of more states to follow. Currently all automobiles shipped into California must be equipped with a positive crankcase ventilation system. That is, it must not discharge its vapor or gas directly into the atmosphere.

The arrangement is quite simple and has been used on stationary and large truck engines for a number of years. It consists of a flow control valve in series between the crankcase and the intake manifold. This allows a variable negative pressure to be present in the crankcase at all times with a variable flow of vapor and gas to the manifold. The vapor and gas discharge is then burnt in the normal process of combustion within the engine.

The valve automatically regulates the flow of gases so that the normal operation of the engine is not disturbed. Under high vacuum conditions, such as idle or coast, the valve is held closed. This allows only a metered amount of gas to flow through the valve orifice into the manifold.

At low vacuum a spring holds the valve off its seat which allows greater amounts of gas to enter the manifold. This variable rate of flow coincides with variations in manifold vacuum, thus giving accurate control for crankcase ventilation in line with engine load.

The vent system will function satisfactorily as long as adequate preventative maintenance is performed on it. The control valve and its related tubing are subject to fouling by carbon formations and sludge. These formations are the direct result of carrying gas and vapor in the system which contain solids of this nature. At regular

intervals the regulating valve and tubing should be removed and cleaned. The valve, if so constructed, should be dismantled and cleaned.

All tubing should be blown clear of any obstruction with compressed air. Possibly, replacement of the rubber tubing would be preferred to cleaning. Where the valve is of the crimped or sealed type, replacement is the only recommended course to follow.

Tire & Valve

Continued from page 46

the next tire can be dangerous practice because the original valve rubber is not as new as the replacement tire rubber.

Removing tubeless valve tears seating surface. Once snapped into a rim, a standard tire valve forms a permanent seal for the life of a tire. Pulling a valve through the rim hole accidentally or for possible salvage and reapplication, permanently mars the sealing surface and weakens the original sealing qualities. For these reasons the service men should never reinstall the same valve.

Summer heat, winter freezing, ozone cracking and mismounting of rim covers are every day operating conditions and occurrences. A valve used for one full tire life does not have the resistance against heat, cold and ozone that the valve had when flush.

Road hazards, oil, tar, extreme temperature, and long exposures are factors which modify both tire and valve life simultaneously.

Sell Valve Cores and Caps as preventive maintenance against flats. Dirt can easily work into any valve mouth that is not protected with a valve cap. Inspection should take place while car is on lube rack or during a gas fill-up.

Magistrate: "Can't this case be settled out of court?"

Pat: "Sure, your honor. That is just what me and Mike was trying to do when the police interfered!"

CAR and TRUCK shop kinks

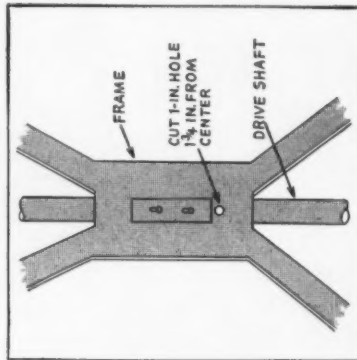
\$25 for KINK of the month \$10 paid for other KINKS

Easy Way to Lubricate the Replacement U Joint

Dale Clatfelter, Clatfelter Chevrolet, West Union, Illinois

Kink of the Month

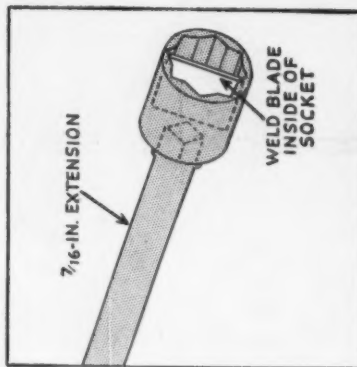
89. Here is an easy way to lubricate the replacement U joint on Chevrolets. Cut a 1-inch hole $1\frac{3}{4}$ inches from the center of the back hole of the carrier bearing. After the lubrication type U-joint is replaced, it can be greased. This saves from having to replace it very often.



Tool for Adjusting Valves on Chevrolet Six

Bill Stockham, Corner Service Center, Linesville, Pa.

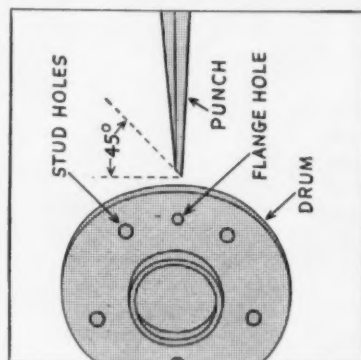
90. I have devised a tool for adjusting valves on Chevrolet Six and other overhead valves. When this tool is put on the adjusting screw it will not slip off. I used a $\frac{7}{16}$ in. nut spinner and pressed a piece of screwdriver blade in the hex end. It can be pressed in or spot welded.



Reworked Taper Punch Removes Stubborn Drums

Carl B. Odam, 3809 Flint Ave., Lubbeck, Texas

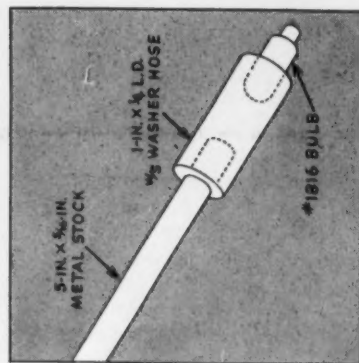
91. On many of the rear one-piece axle shafts the brake drum will not slip off of the shoulder. To remedy this take a taper punch, 10 in. long. Grind end square to the length. Then grind a 45 degree angle to a point at the end. To use, set taper to the hub or axle through the small hole in the drum which is located midway between the stud belt holes. Drive toward center of the axle and drum will loosen.



Tool for Installing Transmission Push Button Bulb in Imperials

Clyde E. Burk, Calkins Motor Sales, Inc., 510 Elmira St., Troy, Pa.

92. We have made a tool that we use for installing the transmission push button bulb in late model Imperials. The bulb is so deeply recessed that it is hard to install with your fingers. Just remove the face plate and two push buttons, one above and one below the bulb. Then install tool over bulb, push in, turn to left, and the bulb is out. Reverse procedure to install new bulb.





Grey-Rock

*gives you an exclusive advantage
you can SEE, SHOW and SELL—*

New Copper-Woven Brake Lining



Chart shows
relative speed
at which common
metals conduct heat.
Of these, copper
conducts it fastest—nearly
twice as fast as aluminum,
almost 5 times as fast as
cast iron.

IRON
BRASS
ZINC
ALUMINUM
COPPER

- Dissipates heat faster
- Practically eliminates fade
- Gives longer service life
- Tested under most severe conditions
- Biggest brake lining improvement in years

Your customers will be enthusiastic about the braking qualities of this all-new lining. It has copper wire woven through it. Because copper is an excellent heat conductor, it carries away much of the heat generated at the braking surface, down through the lining into the shoe, where it is dissipated. Tell your customers about Grey-Rock's new Copper-Woven-Molded Balanced Braksets—you'll find they can become one of your top-dollar earners!



Grey-Rock QUALITY ASSURES YOU OF SATISFIED CUSTOMERS

BALANCED BRAKSETS

Distinctively different—specially engineered to fit each make and model car. Different materials, including new copper-woven and molded, are combined into sets that supply balanced brake action for safe, sure stopping power and long, even wear. Quality like this can be your best salesman!



Grey-Rock

has an "advance
salesman" out working for you

NBC
radio
coast to coast



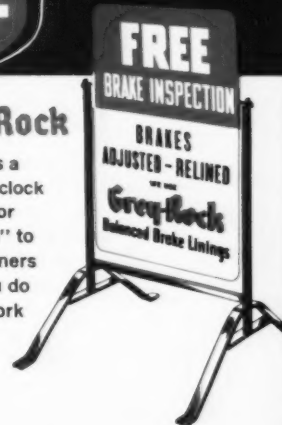
Martin Agronsky

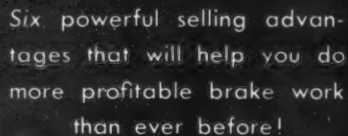
Popular news commentator Martin Agronsky will be your spokesman, selling Grey-Rock to millions of listeners five nights a week during the "hottest" brake service season of the year. Many listeners can become your customers!



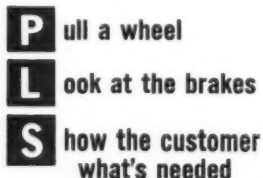
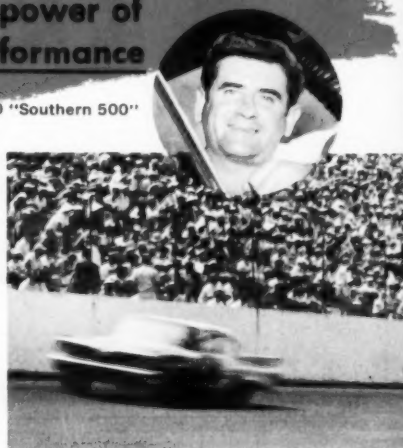
Grey-Rock

supplies a
round-the-clock
"outdoor
salesman" to
let car owners
know you do
brake work





This is typical of comments made by top NASCAR drivers. Grey-Rock, the lining that gives them such outstanding, proved performance, is available to your customers. It makes a powerful sales-closer!



That's the Grey-Rock "6-Way"—six powerful advantages that will help you increase profits! And don't forget the 1961 Grey-Rock "Salesmaker." It can help you become a brake specialist—provides an attention-getting display that includes linings, literature—including the famous Grey-Rock Brake Service Manual and the Grey-Rock sign—plus your choice of labor-saving brake tools. Here's your opportunity to build your brake service business and profits to a new high! See your Grey-Rock distributor or write Grey-Rock Division of Raybestos-Manhattan, Inc., Manheim, Pa.

Only Grey-Rock® makes BALANCED BRAKES LINES
BALANCED BRAKETS • THROTTLES • BURNER BLOCKS • VEE-LOAN CLUTCH FACINGS • AUTOMATIC TRANSMISSION PARTS

You Can't Buy a Better Brake Lining to Save Your ^{customer's} Life

1961 Tune Up—Alignment Specifications

MAKE AND MODEL	No. of cylinders Bore and (In.)	ENGINE		TUNE-UP DATA										FRONT END ALIGNMENT			
		Maximum Brake H.P.	Spark Plug Make and Size	VALVES				IGNITION						Steering Axis Inclination (Deg.)	Caster (Deg.)	Camber (Deg.)	Toe-in (In.)
				Seat Angle		Clearance Tappet Operating		Breaker Point Gap (In.)	Cam Angle (Deg.)	Spark Plug Gap (In.)	Timing						
				Inlet (Deg.)	Exhaust (Deg.)	Inlet (In.)	Exhaust (In.)					Spark Occurs T.C.					
AMERICAN MOTORS CORP.																	
Rambler... American (Deluxe & Super)	6-3 1/2 x 4 1/2	90	CA-14	45	45	.016C	.016C	.020	38	.035	3B	8	0 to 1/2 P	1/2 N to 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... American (Custom)	6-3 1/2 x 4 1/2	125	CA-14	45	45	.012H	.016H	.016	32	.035	8B	8	0 to 1/2 P	1/2 N to 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Classic	6-3 1/2 x 4 1/2	127	CA-14	45	45	.012H	.016H	.016	32	.035	8B	6 11/16	0 to 1/2 P	1/2 N to 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Classic	6-3 1/2 x 4 1/2	200	CA-14	30	45	.012H	.014H	.017	30	.035	TC	8	0 to 1/2 P	1/2 N to 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Ambassador	6-4 x 3 1/2	250	CA-14	30	45	Hyd	Hyd	.017	30	.035	TC	6 11/16	0 to 1/2 P	1/2 N to 1/2 P	1/2 to 1/2	1/2 to 1/2	
CHECKER MOTORS CORP.																	
Checker... Superba, Marathon	6-3 1/2 x 4 1/2	80	Ch-18	30	44	.014H	.014H	.020	39	.029	4B	7	2P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Superba, Marathon (Engine Option)	6-3 1/2 x 4 1/2	122	Ch-14	30	44	.017H	.023H	.020	39	.033	3 1/2 B	7	2P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
CHRYSLER CORP.																	
Chrysler... Newport	6-4 1/2 x 3 1/2	265	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Windsor	6-4 1/2 x 3 1/2	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... New Yorker	6-4 1/2 x 3 1/2	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	1/2 P to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... 300-G	6-4 1/2 x 3 1/2	375	AL-14	45	45	Hyd	Hyd	.017	30	.035	5B	6 1/2	1/2 P to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
DeSoto... Polara	6-4 1/2 x 3 1/2	265	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Dodge... Polara (Engine Option)	6-4 1/2 x 3 1/2	265	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Dodge Dart... Seneca, Pioneer, Phoenix	6-3 1/2 x 4 1/2	145	AL-14	45	45	.010H	.010H	.020	43	.035	2 1/2 B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Seneca, Pioneer, Phoenix (Engine Option)	6-3 1/2 x 4 1/2	230	AL-14	45	45	.010H	.010H	.017	30	.035	5B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Seneca, Pioneer, Phoenix (Engine Option)	6-4 1/2 x 3 1/2	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Seneca, Pioneer, Phoenix (Engine Option)	6-4 1/2 x 3 1/2	330	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2 B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Dodge Lancer... 170, 770	6-3 1/2 x 3 1/2	101	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2 B	7 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... 170, 770 (Engine Option)	6-3 1/2 x 3 1/2	145	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2 B	7 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Imperial... Custom, Crown, Le Baron	6-4 1/2 x 3 1/2	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	1/2 P to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Plymouth... Savoy, Belvedere, Fury	6-3 1/2 x 4 1/2	145	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2 B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Savoy, Belvedere, Fury (Engine Option)	6-3 1/2 x 4 1/2	230	AL-14	45	45	.010H	.010H	.017	30	.035	5B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Savoy, Belvedere, Fury (Engine Option)	6-4 1/2 x 3 1/2	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Savoy, Belvedere, Fury (Engine Option)	6-4 1/2 x 3 1/2	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2 B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Savoy, Belvedere, Fury (Engine Option)	6-4 1/2 x 3 1/2	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2 B	6 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Valiant... V-100, V-200	6-3 1/2 x 3 1/2	101	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2 B	7 1/2	0 to 1N	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
FORD MOTOR CO.																	
Comet... (Engine Option)	6-3 1/2 x 2 1/2	85	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1P to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Falcon... (Engine Option)	6-3 1/2 x 2 1/2	101	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1 1/2 P to 2P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Ford... Fairlane, Fairlane 500, Galaxie	6-3 1/2 x 2 1/2	101	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1 1/2 P to 2P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Fairlane, Fairlane 500, Galaxie	6-3 1/2 x 2 1/2	135	Ch-18	45	45	.019H	.019H	.025	37	.034	4B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Fairlane, Fairlane 500, Galaxie	6-3 1/2 x 2 1/2	175	Ch-18	45	45	.018H	.018H	.016	27	.034	3B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Fairlane, Fairlane 500, Galaxie	6-4 x 3 1/2	220	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Fairlane, Fairlane 500, Galaxie	6-4 1/2 x 3 1/2	300	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Lincoln Continental... Meteor 600, 800	6-4 1/2 x 3 1/2	300	Ch-18	45	45	Hyd	Hyd	.015	27	.034	6B	7	0 to 1 1/2 N	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Mercury... Meteor 600, 800; Monterey	6-3 1/2 x 3 1/2	135	Ch-18	45	45	.019H	.019H	.026	37	.034	4B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Meteor 600, 800; Monterey	6-3 1/2 x 3 1/2	175	Ch-18	45	45	.018H	.018H	.015	27	.034	3B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Meteor 800, Monterey (Engine Option)	6-4 x 3 1/2	220	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Meteor 800, Monterey (Engine Option)	6-4 1/2 x 3 1/2	300	Ch-18	45	45	Hyd	Hyd	.015	27	.034	6B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Thunderbird... (Engine Option)	6-4 1/2 x 3 1/2	300	Ch-18	45	45	Hyd	Hyd	.015	27	.034	6B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
GENERAL MOTORS CORP.																	
Buick... Special	6-3 1/2 x 2 1/2	155	AC-14	45	45	Hyd	Hyd	.016	30	.033	7 1/2 B	7 1/2	1 1/2 N to 1 1/2 P	1/2 N to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Le Sabre	6-4 1/2 x 3 1/2	250	AC-14	45	45	Hyd	Hyd	.016	30	.033	12B	8 1/2	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Invicta, Electra, Electra 225	6-4 1/2 x 3 1/2	325	AC-14	45	45	Hyd	Hyd	.016	30	.033	12B	8 1/2	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Cadillac... 60, 62, 63, 75	6-4 1/2 x 3 1/2	325	AC-14	44	44	Hyd	Hyd	.016	30	.035	5B	6	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Chevrolet... Biscayne, Bel Air, Impala	6-3 1/2 x 3 1/2	135	AC-14	31	46	Hyd	Hyd	.019	32	.036	5B	7 11/16	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Biscayne Fleetmaster	6-3 1/2 x 3 1/2	135	AC-14	31	46	.008H	.018H	.019	32	.036	5B	7 11/16	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Biscayne, Biscayne Fleetmaster, Bel Air, Impala	6-3 1/2 x 3 1/2	170	AC-14	46	46	Hyd	Hyd	.019	30	.036	6B	7 11/16	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Biscayne, Biscayne Fleetmaster, Bel Air, Impala (Engine Option)	6-4 1/2 x 3 1/2	250	AC-14	46	46	Hyd	Hyd	.019	30	.036	7B	7 11/16	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Biscayne, Biscayne Fleetmaster, Bel Air, Impala (Engine Option)	6-4 1/2 x 3 1/2	360	AC-14	46	46	.008H	.018H	.019	30	.036	12B	7 11/16	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Corvair... 500, 700, 900	6-3 1/2 x 2 1/2	80	AC-14	45	45	Hyd	Hyd	.019	33	.035	7B	7	1 1/2 P to 2 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Corvette... F-85	6-3 1/2 x 2 1/2	230	AC-14	46	46	Hyd	Hyd	.019	30	.036	4B	4	1 1/2 P to 2 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
Oldsmobile... F-85	6-3 1/2 x 2 1/2	155	AC-14	45	45	Hyd	Hyd	.016	30	.040	5B	7 1/2	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Super 88, 98	6-4 1/2 x 3 1/2	250	AC-14	45	45	Hyd	Hyd	.016	30	.030	5B	10	0 to 1N	1/2 N to 1 1/2 P	0 to 1 1/2	1/2 to 1/2	
..... Super 88, 98	6-4 1/2 x 3 1/2	325	AC-14	45	45	Hyd	Hyd	.016	30	.030	5B	10	0 to 1N	1/2 N to 1 1/2 P	0 to 1 1/2	1/2 to 1/2	
Pontiac... Catalina, Ventura, Star Chief	6-4 1/2 x 3 1/2	215	AC-14	30	45	Hyd	Hyd	.016	30	.036	6B	6 1/2	1N to 2N	1/2 N to 1 1/2 P	0 to 1 1/2	1/2 to 1/2	
..... Bonneville	6-4 1/2 x 3 1/2	235	AC-14	30	45	Hyd	Hyd	.016	30	.036	6B	6 1/2	1N to 2N	1/2 N to 1 1/2 P	0 to 1 1/2	1/2 to 1/2	
Tempest... (Engine Option)	6-4 1/2 x 3 1/2	110	AC-14	30	45	Hyd	Hyd	.016	75	.036	6B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	0 to 1 1/2	1/2 to 1/2	
..... (Engine Option)	6-3 1/2 x 2 1/2	155	AC-14	46	46	Hyd	Hyd	.016	30	.032	6B	6 1/2	1 1/2 N to 1 1/2 P	1/2 P to 1 1/2 P	0 to 1 1/2	1/2 to 1/2	
STUDEBAKER-PACKARD CORP.																	
Studebaker... Lark-6	6-3 x 4	112	Ch-14	45	45	.024H	.024H	.020	39	.036	2B	6	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Lark-8	6-3 1/2 x 3 1/2	180	Ch-14	45	45	.024H	.024H	.016	30	.036	4B	6	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	
..... Hawk	6-3 1/2 x 3 1/2	210	Ch-14	45	45	.024H	.024H	.016	30	.036	4B	6	1 1/2 N to 1 1/2 P	0 to 1 1/2 P	1/2 to 1/2	1/2 to 1/2	

CURRENT PASSENGER CAR PRICE, WEIGHT AND BODY TABLE

Following are prices at factory for cars with standard equipment as of January 19, 1961
State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight
	Factory Price	Federal Tax	Handling Charge	Suggested Price at Factory including Federal Taxes			Factory Price	Federal Tax	Handling Charge	Suggested Price at Factory including Federal Taxes			Factory Price	Federal Tax	Handling Charge	Suggested Price at Factory including Federal Taxes			Factory Price	Federal Tax	Handling Charge	Suggested Price at Factory including Federal Taxes	
AMERICAN MOTOR CORP.																							
RAMBLER American-6 Deluxe						Hardtop, 2d.....	2503	234	2737	3520	THUNDERBIRD Hardtop	3426	329	3755	3799	CHEVROLET, cont'd Sta. Wag., 6p...	2835	284	3099	3930			
Sedan, 2d.....	1684	161	1845	2504		Hardtop, 4d.....	2558	238	2796	3555	Convertible.....	3680	362	4222	3987								
Sedan, 4d.....	1730	164	1894	2541		Convertible.....	2736	252	2968	3580													
Sta. Wagon, 2d.	1902	178	2080	2552		DODGE Polara-V8					LINCOLN Continental					CORVAIR 600							
Sta. Wagon, 4d.	1948	181	2129	2595		Sedan, 4d.....	2706	260	2966	3700	Sedan, 4d.....	5565	502	6067	4927	Sedan, 4d.....	1750	170	1920	2320			
Super-6						Hardtop, 2d.....	2767	265	3032	3690	Convertible.....	6166	547	6713	5215	Sedan, 4d.....	1890	174	1974	2325			
Sedan, 2d.....	1763	167	1930	2506		Hardtop, 4d.....	2840	270	3110	3740					Sta. Wag.....	2075	.....	.....	2535		
Sedan, 4d.....	1809	170	1979	2544		Convertible.....	2972	280	3252	3785	MERCURY Meteor-6					700							
Sta. Wagon, 2d.	1981	184	2165	2554		Sta. Wagon, 6p.	3011	283	3294	4115	Sedan, 2d.....	2201	216	2417	3549	Coupe.....	1810	175	1965	2380			
Sta. Wagon, 4d.	2027	187	2214	2620		Sta. Wagon, 9p.	3118	291	3409	4125	Sedan, 4d.....	2251	220	2471	3616	Sedan, 4d.....	1880	179	2039	2380			
Custom-6											Sedan, 2d.....	2201	216	2417	3549	Sta. Wag.....	2135	196	2331	2555			
Sedan, 2d.....	1884	176	2060	2557		IMPERIAL Custom					800					900							
Sedan, 4d.....	1929	180	2109	2594		Southamp., 2d.	4485	442	4923	4715	Sedan, 2d.....	2367	228	2595	3582	Coupe.....	2010	191	2201	.....		
Sta. Wag., 2d.	2102	193	2295	2612		Southamp., 4d.	4654	455	5109	4740	Sedan, 4d.....	2417	232	2649	3684	Spts. Wag.....	2433	218	2651	.....		
Sta. Wag., 4d.	2148	196	2344	2671		Crown					Hardtop, 2d.....	2423	233	2656	3596								
Convertible.....	2170	199	2369	.....		Southamp., 4d.	5155	492	5647	4855	Hardtop, 4d.....	2463	236	2721	3682	CORVETTE Sportscar.....						
Classic-6 Deluxe						Convertible.....	5273	501	5774	4865	Sta. Wag.....	2562	244	2826	.....	3619						
Sedan, 4d.....	1918	180	2098	2915		La Baron					Meteor-8					315							
Sta. Wag., 4d, 2s.	2233	204	2437	3047		Southamp., 4d.	5870	566	6426	4875	600					3934							
Super											Sedan, 2d.....	2309	224	2533	3647	7905							
Sedan, 4d.....	2071	197	2268	2933		LANCER 170					800					F-85							
Sta. Wag., 4d, 2s.	2354	218	2572	3066		Sedan, 2d.....	1832	175	2007	2585	Sedan, 4d.....	2359	228	2587	3714	Sedan, 4d.....	2175	209	2384	2941			
Sta. Wag., 4d, 3s.	2473	224	2697	3121		Sedan, 4d.....	1889	180	2069	2595	Sedan, 2d.....	2475	236	2711	3680	Del. Sed., 4d.....	2300	218	2519	2547			
Custom						Wagon, 6p.	2179	203	2382	2760	Hardtop, 2d.....	2525	240	2765	3762	Del. Sta. Wag.	2560	239	2789	2731			
Sedan, 4d.....	2206	207	2413	2983		770					Hardtop, 4d.....	2531	241	2772	3904	Series 88							
Sta. Wag., 4d, 2s.	2489	228	2717	3269		Sedan, 4d.....	1968	188	2154	2605	Monterey	2591	246	2837	3780	Sedan, 2d.....	2574	261	2835	3066			
Sta. Wag., 5d, 3s.	2608	234	2842	3408		Hardtop, 2d.....	1993	186	2181	2595	Sedan, 4d.....	2622	247	2869	3777	Celeb. Sedan.....	2634	266	2900	4031			
Classic-V8						Wagon, 6p.	2257	208	2466	2775	Hardtop, 2d.....	2628	248	2876	3709	Hol. Coupe.....	2687	269	2986	3961			
Super						PLYMOUTH Savoy-V8					Colon Park					Hol. Spt. Sed.....							
Sedan, 4d.....	2191	206	2397	3255		Sedan, 2d.....	2170	209	2379	3440	Colon Park	2628	253	2841	3785	Convertible.....	2769	275	3034	4074			
Sta. Wag., 4d, 2s.	2474	227	2701	3378		Sedan, 4d.....	2217	213	2430	3465		2660	266	3126	3872	Fiesta, 2s.....	299	293	3284	4090			
Sta. Wag., 5d, 3s.	2593	233	2826	3430		Belvedere-V8					Sta. Wag.	2660	266	3126	3872	Fiesta, 3s.....	3065	296	3363	4354			
Custom						Sedan, 4d.....	2290	218	2508	3450	Commuter	2670	252	2922	4115	Super 88	3165	306	3471	4428			
Sedan, 4d.....	2298	214	2512	3282		Suburban-V8					Colon Park	2852	266	3118	4131	Celeb. Sedan.....	3165	306	3471	4428			
Sta. Wag., 4d, 2s.	2581	235	2816	3378		Sedan, 4d.....	2337	222	2550	3470						Hol. Coupe.....	3020	305	3325	4024			
Sta. Wag., 5d, 3s.	2700	241	2941	3437		Fury-V8										Hol. Spt. Sed.....	3092	310	3402	4099			
Ambas-V8						Sedan, 4d.....	2337	222	2550	3470						Fiesta, 2s.....	3288	324	3592	4090			
Super						Hardtop, 4d.....	2357	223	2580	3480						Fiesta, 3s.....	3336	329	3685	4382			
Sedan, 4d.....	2323	214	2537	3361		Deluxe, 2d, 6p.	2488	233	2721	3845	Special					Series 96	3436	337	3773	4445			
Sta. Wag., 4d, 2s.	2606	235	2841	3493		Deluxe, 4d, 6p.	2550	238	2788	3885	Sedan, 4d.....	2175	209	2394	2610	Celeb. Sedan.....	3533	354	3887	4231			
Sta. Wag., 5d, 3s.	2725	241	2966	3553		Custom, 4d, 6p.	2636	244	2880	3895	Sta. Wag., 4d.....	2450	231	2681	2775	Hol. Sedan.....	3658	363	4021	4289			
Custom						Custom, 4d, 6p.	2738	252	2990	3965	Del. Sed., 4d.....	2300	219	2519	2632	Hol. Coupe.....	3715	368	4083	4187			
Sedan, 4d.....	2458	224	2682	3380		Sport, 4d, 6p.	2770	254	3024	3990	Le Sabre	2575	241	2616	2784	Hol. Spt. Sed.....	3786	373	4159	4391			
Sta. Wag., 4d, 2s.	2741	245	2986	3495		Sport, 4d, 9p.	2872	262	3134	3995	Sedan, 2d.....	2720	273	2993	4033	Convertible.....	3975	387	4392	4225			
Sta. Wag., 5d, 3s.	2860	251	3111	3551							2d.....	2826	281	3107	4102								
CHECKER MOTORS																							
Superba						Deluxe, 2d, 6p.	2550	238	2788	3885	Hardtop, 2d.....	2867	285	3152	4054	PONTIAC							
Sedan, 4d.....	2542	2320				Custom, 4d, 6p.	2636	244	2880	3895	Hardtop, 4d.....	2938	290	3226	4129	Tempest							
Sta. Wagon, 4d.....	2896	3570				Custom, 4d, 6p.	2738	252	2990	3965	Convertible.....	3062	300	3382	4186	Sedan, 4d.....	1875	182	2167	2800			
Marathon						Sport, 4d, 6p.	2770	254	3024	3990	Est. Wagon, 2s.	3306	317	3623	4450	Sta. Wag., 6p.....	2225	213	2439	2980			
Sedan, 4d.....	2650	3345				Sport, 4d, 9p.	2872	262	3134	3995	Est. Wagon, 3s.	3406	324	3730	4483	Spt. Sedan, 2d.....	2390	241	2631	3650			
Sta. Wag., 4d.....	3004	3615									Invicta					Sedan, 4d.....	2456	246	2702	3275			
CHRYSLER CORP.																							
CHRYSLER						V-100					Hardtop, 4d.....	3192	323	3515	4179	Spt. Coupe.....	2515	251	2766	3860			
Newport						Sedan, 2d.....	1782	171	1953	.....	Convertible.....	3290	330	3620	4206	Vista Sed., 4d.....	2856	256	2842	3785		
Sedan, 4d.....	2693	271	2964	3710		Sedan, 4d.....	1838	178	2014	.....	Electra					Convertible.....	2805	273	3078	3805		
Hardtop, 2d.....	2750	275	3025	3690		Sta. Wag., 2s.....	2128	199	2327	.....	Hardtop, 2d.....	3460	365	3825	4260	Sta. Wagon, 6p.....	2825	274	3099	4135		
Hardtop, 4d.....	2824	280	3104	3730		V-200					Sedan, 4d.....	3468	352	3618	4296	Sta. Wagon, 9p.....	2925	282	3207	4175			
Convertible.....	3137	305	3442	3780		Hardtop, 4d.....	1927	183	2110	.....	Electra 225	3566	366	3932	4338	Spt. Coupe.....	2706	265	2971	3885		
Sta. Wagon, 2s.	3230	311	3541	4070		Sedan, 4d.....	1952	185	2137	.....	Convertible.....	3795	397	4192	4441	Sedan, 4d.....	2777	270	3047	3796		
Sta. Wagon, 3s.	3305	317	3622	4155		Sta. Wag., 2s.....	2217	208	2423	.....	Riviera, 4d.....	3842	408	4304	4417	Star Chief						
Windstar																Sedan, 4d.....	2736	267	3003	3840			
Sedan, 4d.....	2920	298	3218	3730		FORD MOTOR CO.					CADIILLAC Series 62					Vista Sed., 4d.....							
Hardtop, 2d.....	2999	304	3303	3710		Sedan, 2d.....	1830	168	1999	2399	Coupe.....	4475	417	4692	4560	Spt. Coupe.....	2970	285	3255	3810			
Hardtop, 4d.....	3059	308	3367	3765		Sedan, 4d.....	1880	173	2063	2432	Sedan, 6w.....	4850	430	5080	4680	Vista Sed., 4d.....	3040	291	3331	3895			
New Yorker						Sta. Wag., 2d.....	2119	191	2310	2548	Cpe. deVille, 4w.	4810	442	5252	4595	Convertible.....	3175	301	3476	3905			
Sedan, 4d.....	3752	371	4123	4055		Sta. Wag., 4d.....	2168	.....	.....	.....	Convertible.....	5000	455	5455	4720	Sta. Wagon.....	3225	305	3530	4185
Hardtop, 2d.....	3800	375	4175	4065		FALCON Tudor	1746	166	1912	2259	Sed. deVille, 4w.	5040	468	5486	4715	STUDEBAKER CORP.							
Hardtop, 4d.....	3880	381	4261	4100		Tudor Sedan.....	1808	171	1974	.....	Biarriz	5950	527	5987	4805	STUDEBAKER						
Convertible.....	4188	404	4592	4070		Sta. Wagon, 2d.	2036	189	2225	.....	Special 75	5700	533	6233								

Brake Service Continued from page 49

assemblies are removed. In some instances the inner bearing and grease retainer will stay on the spindle shaft when the brake drum and hub assembly are removed. Should this occur, then a bearing puller will have to be used to extract the bearing assembly from the spindle.

These bearings are caged ball bearings assembled as a complete unit and should be replaced with the markings or word "Thrust" on each of the bearings facing each other and the center of the hub spacer. Always renew the grease seals when reinstalling brake drums. The spindle nut on the left hand side has a left hand thread and you are cautioned to turn the wrench in the proper direction.

The rear wheels are fitted to a multi-splined shaft. Remove the hub cap, extract the cotter pin and remove the castelated nut. After removing nut, grasp the wheel firmly in both hands and pull firmly away from the axle shaft. If the wheel doesn't come free immediately a slight tap on the end of the shaft with a brass or soft hammer will result in the wheel coming free of the splines and the split tapered collar.

Check Brake Drums

Check the brake drums for scoring and if required they can be turned on a conventional American brakedrum turning machine. Remember not to exceed a cut of 0.30" inches, that is not to exceed sixty thousandth in diameter.

Each shoe on the front wheel is operated by a separate wheel cylinder and thus provides two leading shoes. The rear wheel brakes are operated by a single wheel cylinder which floats in the backing plate (it is not secured to the backing plate by cap screws in any way.) The rear wheel cylinder is operated both hydraulically and mechanically.

It is designed this way so that the rear wheels are provided with one leading and one trailing shoe to provide efficient braking in reverse. All of the brake shoes have nonadjustable floating anchors;

in that each shoe utilizes the closed end of the other shoes wheel cylinder as an anchor. The two rear wheel shoes are both sharing a common anchor.

The hand brake is arranged to operate the rear brakes mechanically thru a linkage operating on the piston of the rear wheel cylinder. This piston is constructed

in two halves with the operating lever sandwiched between the two. The outer half of the piston applies the leading shoe when operated by the pivot level.

The trailing shoe is applied by the movement of the cylinder body which slides on the brake plate as a result of the reaction of the mechanically operated lever on its pivot. When the rear brakes are operated hydraulically, the inner

Continued on page 76

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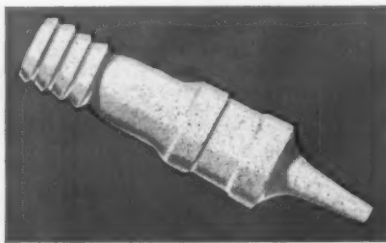
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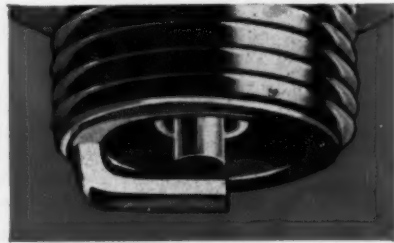
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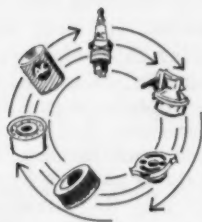
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profit AChievers!

Brake Service Continued from page 73

half of the piston is forced outwards, carrying with it the outer half, thus applying the leading shoe.

The trailing shoe is applied by the floating cylinder body as a result of the reaction of fluid pressure against the wheel cylinder body.

Brake linings, wheel cylinder cups, oil seals, and bearings can, in most instances be obtained thru your local foreign car dealer, or thru your domestic parts jobber.

Brake lining, wheel cylinder cups, oil seals, bearings and other components of domestic manufacture are available thru most jobbers.

The early Morris Minors used aluminum brake cylinders with whitworth threads, whereas the more recent models have been using cast iron wheel cylinders with Unified threads. In the event wheel cylinders are required they will more than likely have to be purchased thru your local imported car dealer, or thru an imported car

parts specialty house in your area.

Brake Shoe Removal

Brake shoes can easily be extracted from the backing plates, simply by inserting a screw driver between the anchor of the wheel cylinder and brake shoe. Pry the brake shoe down and away from the wheel cylinder anchor as shown in our illustration and the brake shoe assemblies will come free very easily. After installing new brake lining and riveting it in place correctly check the "Micram" adjusters.

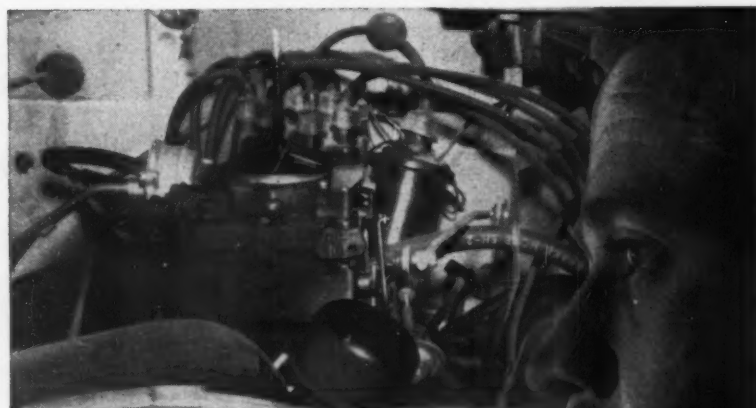
The Micram adjusters are located on the working side of the wheel cylinders and they are nothing more than an eccentric ratchet assembly. Clean them thoroughly and apply some light lubrication to their pivot points. Clean off the backing plate area thoroughly and apply a small amount of lubrication to the steady rest spots on the backing plate.

You will notice from our illustrations that two heavy retractor springs are utilized on the front shoes and one heavy retractor spring is used on the rear shoes. A light retractor spring is placed in a position nearest to the fixed anchor of the rear shoes.

All springs are placed on the brake shoes so that the springs will be between backing plate and the brake shoes. The rear shoes have coil spring shoe retainers, or anti-rattle springs, fronts do not. The wheel cylinders, should they require replacement, are removed in the conventional manner. The fronts are held in position by two cap screws into the aluminum body. The rear wheel cylinders, however, are mounted entirely different. As stated previously the rear wheel cylinder floats in the rear backing plate.

It can be extracted very simply by disconnecting the pipe line on the rear of the wheel cylinder. Disconnect the emergency brake clevis pin and cable from the lever. Remove the rubber boot on the back of the wheel cylinder, then lifting the lever up to free the wheel cylinder on the backing plate it can be extracted very easily.

The oblong hole from which the
Continued on page 98



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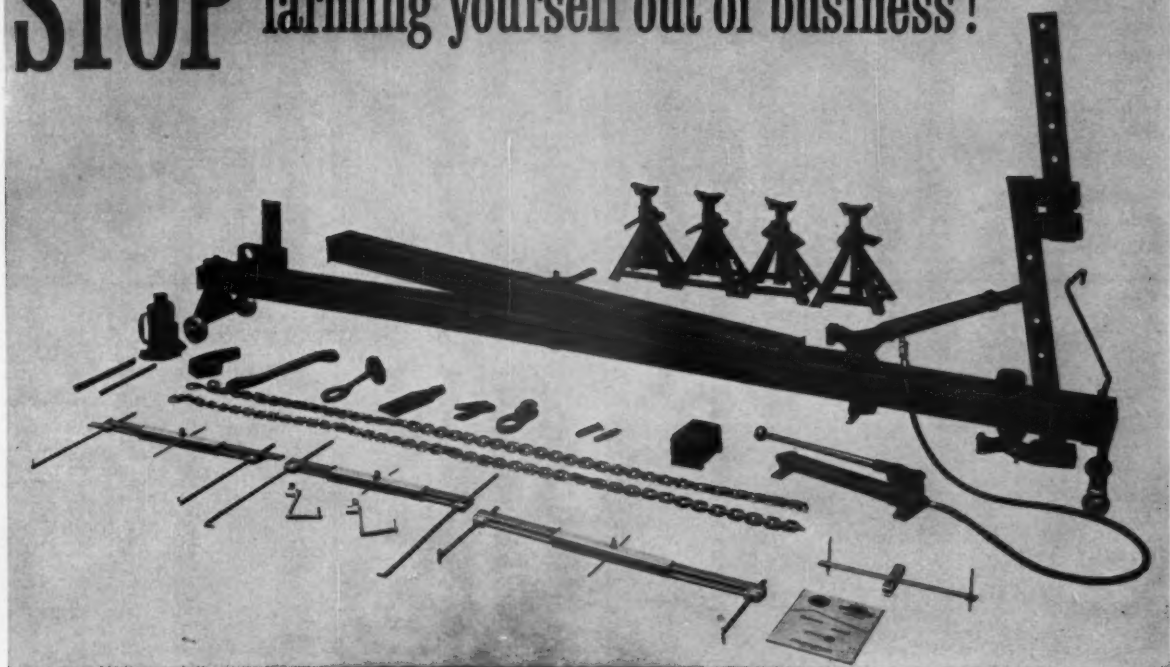
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STATE		Buick	Cadillac	Chevrolet	Chrysler	Comet	DeSoto	Dodge	Ford	Imperial	Lincoln	Mercury	Oldsmobile	Plymouth	Pontiac	Rambler	Studebaker	All Others	Totals	
Alabama	Nov. 228	116	1093	54	192	19	216	1437	29	11	123	280	290	266	241	53	589	5811		
	11 Mos. 3128	1249	24253	746	1725	233	3391	17516	180	163	1587	3678	3978	4184	4005	915	6580	77683		
Alaska	Nov. 5	12	59	11	20	1	11	31	7	...	8	9	66	13	22	5	62	342		
	11 Mos. 82	109	1010	73	91	18	96	926	37	14	73	98	578	183	253	81	871	4591		
Arizona	Nov. 161	100	864	27	163	4	166	764	2	7	96	165	168	169	225	53	215	3416		
	11 Mos. 1187	1051	9639	303	1043	102	1965	8531	102	196	1058	2614	2396	2186	2396	884	3671	39757		
Arkansas	Nov. 163	86	1136	24	100	13	158	1052	9	6	93	256	174	238	152	43	146	3831		
	11 Mos. 1470	714	12065	288	766	144	1850	10530	66	101	1053	2382	2149	2820	2010	557	2273	40970		
California	Nov. 2352	1644	13803	634	2738	79	2799	13985	212	178	1537	3688	2896	3725	793	4706	59044			
	11 Mos. 16547	16122	130505	5582	16975	1330	28834	130962	1679	2161	13114	24433	40585	28894	39919	9502	67093	574297		
Colorado	Nov. 271	120	1554	91	176	5	208	1377	19	13	162	307	286	290	373	84	283	5619		
	11 Mos. 2051	1109	15656	663	1210	181	2891	12948	138	196	1980	2899	3487	3316	4200	1109	3970	57644		
Connecticut	Nov. 386	249	1986	116	373	25	933	1872	29	20	217	8196	1243	821	707	182	963	9249		
	11 Mos. 2572	2113	20776	1386	2862	341	5231	18275	218	248	2162	4341	8173	4918	7185	2097	11347	94673		
Delaware	Nov. 66	50	539	32	58	9	112	429	6	3	61	135	145	136	101	16	119	2037		
	11 Mos. 604	409	5408	216	334	95	1146	3625	34	40	416	975	1440	1168	979	264	1841	19143		
District of Columbia	Nov. 72	86	497	40	97	1	140	487	5	6	44	149	171	124	130	29	199	2259		
	11 Mos. 592	763	6464	439	524	76	1403	4723	89	127	440	1414	2480	1831	1864	962	3171	26842		
Florida	Nov. 837	733	5384	206	789	50	695	4360	92	62	327	1156	1946	964	1344	337	2381	20843		
	11 Mos. 6903	6251	50384	1810	373	582	7409	43049	940	850	2407	9196	1243	9649	1986	284	31129	26873		
Georgia	Nov. 333	184	2291	73	232	12	2169	1117	17	138	359	494	494	494	194	95	802	8156		
	11 Mos. 3914	1847	13167	938	1891	325	4456	27343	168	270	1877	4948	6861	7909	4925	1455	12196	112690		
Hawaii	Nov. 56	29	367	23	41	1	43	364	3	1	13	230	35	42	...	...	235	1556	
	11 Mos. 388	250	4126	195	284	17	732	3412	26	17	130	453	2486	360	880	254	3154	16884		
Idaho	Nov. 117	37	376	29	67	2	93	276	9	7	61	60	80	123	130	32	93	1582		
	11 Mos. 924	476	4342	242	437	77	1253	3604	74	68	509	1050	1151	1380	1824	411	1440	19260		
Illinois	Nov. 2226	878	9211	407	914	98	1315	6945	86	96	807	1886	2467	1886	1886	1886	1886	1886		
	11 Mos. 20182	10201	113308	4963	91	1261	21672	77735	993	1609	9457	24558	23067	31358	25623	6551	19969	401070		
Indiana	Nov. 805	314	3145	150	343	34	615	3073	38	30	244	1071	689	881	672	374	549	13027		
	11 Mos. 6257	3304	44882	1703	3158	766	9462	34442	382	498	3913	11302	9741	11473	9741	5193	7467	165684		
Iowa	Nov. 478	128	2040	115	214	14	399	1830	14	9	221	467	453	389	448	129	175	7513		
	11 Mos. 3595	1220	22630	943	1678	276	4459	18369	117	130	2119	4390	5162	4498	5479	1231	3033	78331		
Kansas	Nov. 386	114	1723	78	169	7	272	1503	15	15	172	411	363	382	324	88	262	6274		
	11 Mos. 3616	1263	21628	787	1351	226	4086	18146	215	219	1787	4408	4619	4408	4408	1332	70	285	5729	
Kentucky	Nov. 352	96	1653	96	146	13	213	12519	100	116	1511	3824	4509	4205	3983	870	3772	66353		
	11 Mos. 2928	956	10941	511	1356	240	3233	15198	100	116	1511	3824	4509	4205	3983	870	3772	66353		
Louisiana	Nov. 297	161	2054	99	230	16	236	1826	19	16	172	458	270	456	240	81	341	7062		
	11 Mos. 3056	1488	25418	740	1725	257	3044	20624	186	183	1680	4956	3587	5952	3570	920	6944	84330		
Maine	Nov. 96	43	601	27	83	5	133	536	4	5	60	97	147	133	169	52	188	2379		
	11 Mos. 932	480	8113	276	696	128	1436	6335	35	55	714	1009	2099	1502	2573	701	2991	30052		
Maryland	Nov. 431	187	2579	174	302	25	582	2283	21	27	187	487	744	453	617	110	556	9777		
	11 Mos. 3557	1838	30981	1564	2169	473	6985	23344	239	211	1967	4640	9712	5689	7231	1886	9200	121200		
Massachusetts	Nov. 696	368	2291	173	342	55	696	3497	83	25	325	9818	12876	7737	15083	2644	14554	162142		
	11 Mos. 5800	3419	37373	2076	3495	690	9455	33844	387	527	3552	8818	12876	7737	15083	2644	14554	162142		
Michigan	Nov. 3090	1332	9548	494	1398	73	1625	8912	96	120	1516	2752	2412	2913	1546	295	1005	39027		
	11 Mos. 20511	9163	104441	3820	12720	1395	24461	97303	681	1341	13129	23788	27241	29184	19086	3654	17313	409411		
Minnesota	Nov. 613	219	2895	157	301	25	568	2647	29	29	317	758	882	620	675	147	11302			
	11 Mos. 5535	2152	31042	1481	2350	468	6643	25546	239	296	3020	7499	9125	7386	8090	2437	5887	119163		
Mississippi	Nov. 149	56	1023	30	55	6	79	4	4	6	113	203	172	129	129	129	129	129		
	11 Mos. 1804	544	11174	342	546	119	1406	8733	49	75	713	2411	2178	2425	1657	582	2503	37940		
Missouri	Nov. 569	184	3045	96	280	26	572	2940	18	10	235	682	667	650	609	81	471	11137		
	11 Mos. 5317	2520	41686	1253	2347	468	8743	32198	256	271	2528	7170	8780	8335	8641	1506	7290	139296		
Montana	Nov. 105	43	388	19	44	1	83	326	9	3	48	115	86	66	100	31	88	1555		
	11 Mos. 1051	459	5278	215	438	77	1351	4491	68	52	887	1193	1306	1090	1547	414	1386	21123		
Nebraska	Nov. 239	83	1131	46	95	8	233	1142	18	5	118	250	263	250	239	44	125	4286		
	11 Mos. 1863	905	13827	532	739	152	3137	11882	113	76	1217	2613	2996	2684	3252	869	1971	48520		
Nevada	Nov. 18	10	118	10	34	1	32	345	3	3	25	61	33	36	14	55	609	8722		
	11 Mos. 222	300	1940	135	286	31	483	1813	38	112	417	439	644	690	654	182	1436	9722		
New Hampshire	Nov. 112	39	629	25	89	6	139	594	6	9	81	125	129	126	116	63	292	2680		
	11 Mos. 731	350	6121	205	596	61	1337	5005	37	68	638	842	1434	901	2191	691	2958	24244		
New Jersey	Nov. 1376	877	5772	538	741	63	1229	5224	126	99	587	1801	1962	1451	1501	340	1577	25084		
	11 Mos. 9536	7857	60769	5075	6017	1275	16102	47653	980	1007	5288	13217	20279	15221	18178	4182	20487	253103		
New Mexico	Nov. 129	66	729	34	61	6	106	596	8	6	95	147	183	146	184	44	147	2671		
	11 Mos. 994	563	7043	329	508	61	963	5769	77	56	651	1431	1444	941	1158	277	1934	10586		
New York	Nov. 1732	1148	11146	1646	1064	1064	221	93	1213	4184	3981	3108	3383	912	3111	912	3111	912		
	11 Mos. 21654	17029	128336	10706	13707	2381	36372	106105	1685	1835	12032	34508	47527	33882	41823	10770	51491	572023		
North Carolina	Nov. 540	190	2532	130	350	19	430	3120	18	10	225	510	564	610	427	144	442	10269		
	11 Mos. 4612	1805	29867	1121	2374	317	4529	29574	161	184	2090	4984	6822	6409	4678	1613	9055	110293		
North Dakota	Nov. 112	27	532	46	73	6	107	575	9	3	77	143	126	92	102	18	90	2110		
	11 Mos. 725	267	5109	355	454	91	1205	4718	58	39	705	1194	1444	941	1158	277	1934	10586		
Ohio	Nov. 2293	878	56384	113	1167	781	227	1093	287	103	2190	2683	2408	1853	2408	1853	2408	1853		
	11 Mos. 17847	7187	96384	3949	12311	1490	25899	85336	816	911	10793	21683	27070	26135	213					



Sealed Power Stainless Steel Oil Ring

THIS OIL RING PROTECTS YOUR SHOP'S REPUTATION

Since its introduction in 1957 engines, Sealed Power's Stainless Steel oil ring has won engine builder acceptance faster than any by far.

New car engineers, tests, and millions of miles of actual on-the-road operation, proved this ring out for you. No ring yet controls oil as well. Take Sealed Power's

Stainless Steel oil ring—your ability to turn out a good overhaul—and you have an unbeatable combination.

The Stainless Steel oil ring side-seals, holds its fit, retains its tension, resists sludging and corroding, is easy to install. Sealed Power Corporation, Muskegon, Michigan.



Sealed Power Stainless Steel piston rings stop oil pumping

VISIT OUR BOOTH NO. 2456-7-8-9 AT THE I.A.S.I. SHOW IN LOS ANGELES, FEBRUARY 17-18, 1961

NOW **AP** TRUMPS ITS OWN ACE AN EVEN BETTER DEAL...

PUT 'EM ON IN ONLY 15 MINUTES



FREE: This Muffler Installation Manual is crammed full of time-saving, labor-saving tips, detailed step-by-step picture solutions to specific muffler problems. Tells how to get the most out of the AP muffler gun.



FREE: These exclusive chisels and the pneumatic gun enable you to lick any muffler-removal problem. And with the handy metal case you can lick the problem of "Where did I put them?"



FREE: This huge, colorful wall or window banner. It's made of weather-resistant paper and measures 60 x 36 inches. Excellent visibility. Along with your A-board, this will give your station strong identification.



Your prospects are pre-sold on the AP name through 45,000 A-boards and 4-color advertising in the Saturday Evening Post. Be sure you have an A-board. It will increase your muffler sales by 200-700%.

WITH THE A-61 PROFIT-PAK... AND AT A LOWER PRICE TO YOU

Now you buy just 4 popular AP Mufflers at list price

**YOU GET HEAVY DUTY
MUFFLER GUN AND 3
EXCLUSIVE CHISELS**

FREE

Here's What You Get:

2 Chevrolet 54-61 (at \$13.75).....	\$27.50
1 Ford 55-56.....	14.20
1 Plymouth 49-59.....	12.25
1 Installation Manual.....	FREE
1 15-Minute Installation Banner...	FREE
Heavy Duty Gun.....	FREE
3 Chisels.....	FREE
Metal Case.....	1.00

\$54.95*

*Subject to change without notice.

Last year, over 40,000 dealers bought 5 mufflers—invested \$68.15—to get the AP muffler gun. Now you buy just four mufflers—invest only \$54.95—and get the gun and chisels plus the installation manual, a huge

15-minute installation banner and metal case.

Nothing you do makes so much profit, so fast, so often. Why let this business go down the street? With this setup you can meet any competition and start building a steady trade that will net you more than any other single service you offer.

Do any job in minutes. Easy ones, tough ones, you can do them all when you have AP know-how (see free Installation Manual) and the AP muffler gun. You'll quickly learn how to do a muffler job in minutes, so you can add this extra, high-profit service without neglecting your other services.

Everything in the A-61 Profit-Pak comes to you neatly packaged in one carton. It's your "muffler shop in a box." THE AP PARTS CORPORATION, 3-O AP BUILDING, TOLEDO 1, OHIO.



SELL 15-MINUTE INSTALLATION...

**THE PROFIT PART
OF YOUR BUSINESS**



**WORLD'S LARGEST MANUFACTURER
OF REPLACEMENT MUFFLERS**

**THE AP PARTS CORPORATION
3-O AP BUILDING, TOLEDO 1, OHIO**

Please send me without obligation more information on the AP A-61 Profit-Pak deal and 15-minute installation story.

Name

Company

Address

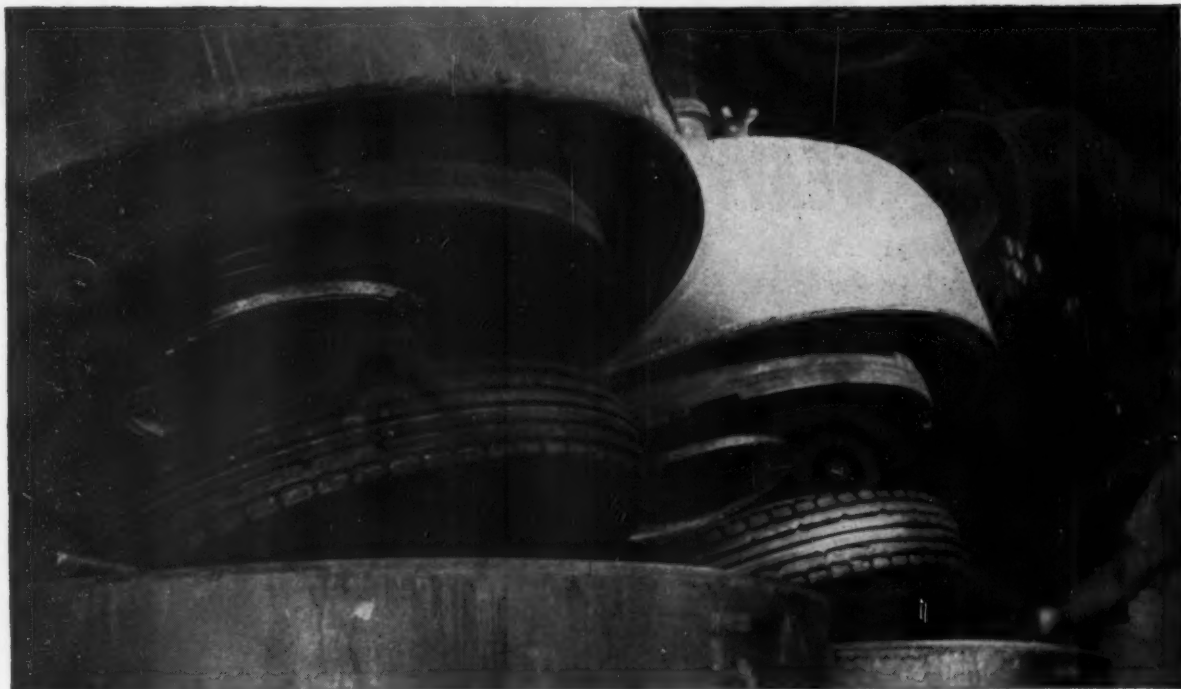
City Zone State

My business is ☐ Repair Shop ☐ Service Station

☐ Car Dealer ☐ Other (specify)

My automotive wholesaler is

THE U.S. TREASURY SALUTES THE RUBBER INDUSTRY

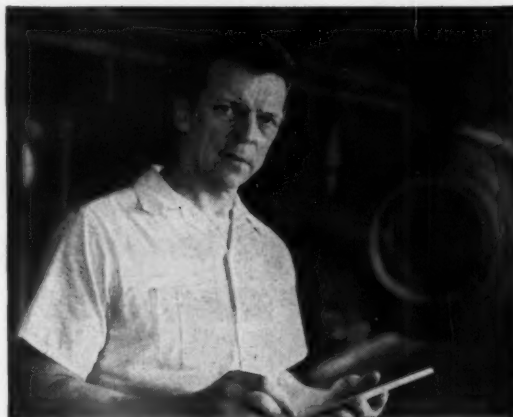


and its people who buy Savings Bonds and strengthen America's Peace Power

Americans who work in the rubber industry are proud of the rapid strides being made in their field, both in volume and in variety. Automotive rubber products and molded and mechanical rubber goods show constant gains in quality and quantity. Further, the rubber industry has done pioneer work in such novel applications as moving sidewalks and collapsible tanks for liquid storage.

People who work in this 7 billion dollar industry are proud of another thing, too: the help so many thousands of them are giving to America's Peace Power through the purchase of U. S. Savings Bonds. By regular purchases of Shares in America, these patriotic and forward looking people are reinforcing their own security after retirement. By this means they establish reserves for emergencies as well as for long range family projects, like education and home building.

If your company has not, thus far, set up a Payroll Savings Plan, you can start immediately. Just telephone your State Savings Bonds Director and accept the help he is anxious to give you. Or write to Savings Bonds Division, U. S. Treasury Department, Washington, D. C.



Harold E. Kalb is shown here at his work in one of the great manufacturing plants of the rubber industry. Like many thousands of his fellow craftsmen, Mr. Kalb is using his company Payroll Savings Plan to contribute regularly to the Peace Power of his country.



MOTOR AGE



THE U. S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE.

FREE DIVIDENDS... WITH NEW

AIRTEX DO FUEL PUMP PROGRAM



Here's The Greatest Fuel Pump Sales Pageant Yet

Feast your eyes on these AIRTEX Dividends . . . Sparkling . . . Valuable . . . Honest to goodness values. How do you get them? Simple. Order the AIRTEX DO PAKage of eight fuel pumps; the stock that you need. Each assortment is a normal 8 week stock which you probably will use in less time . . . this proves DO stands for Dividends with Opportunities. With the DO assortment you'll receive your choice of these handsome, nationally advertised Dividends. Choose the Corning Ware Royal Family Set or the 5-Transistor Radio or the $\frac{1}{4}$ " Skil Power Drill. You pay lowest price for 7 pumps and special

promotional price for the extra pump, plus Dividend; when you sell the extra pump, the Dividend is yours free.

The DO PAKage contains the finest fuel pumps available to assure you of top sales OPPORTUNITIES. Exclusive AIRTEX features are built into every AIRTEX Fuel Pump to give your customers long-lasting, care-free performance.

FOR BEST PERFORMANCE / TROUBLE FREE VALUE / INSTALL A NEW FUEL PUMP / INSTALL

AIRTEX
AIRTEX AUTOMOTIVE DIVISION
AIRTEX PRODUCTS,
Fairfield, Illinois
FUEL PUMPS • WATER PUMPS

**SPECIFY DELCO-REMY
IGNITION PARTS
TO RESTORE
NEW-CAR
PERFORMANCE,
SPEED SERVICE,
INCREASE
PROFITS!**

Here's opportunity for you! A national trade magazine* survey shows that 84% of the cars on the road today need some kind of ignition work. Just take a quick look under the distributor caps of your customers' cars, and when you spot trouble, suggest a complete tune-up—replace worn ignition components with Delco-Remy parts.

Why Delco-Remy? Because they are the *quality* ignition service parts for all popular American cars and light trucks. They're ready to install, and make ignition systems perform like new. And new packages make these Delco-Remy parts easier to stock, identify and sell.

1

DELCO-REMY DISTRIBUTOR CAPS are designed and built of highly dielectric, shock and heat resistant materials, and feature voltage-saving internal ribs.

2

DELCO-REMY CONTACT SETS are factory-adjusted and aligned for quick, easy installation. Heat-sealed, moisture-proof packages protect contact sets against dirt and oxidation.

3

DELCO-REMY ROTORS combine maximum strength with minimum weight and superior balance to assure smooth rotation at slow or turnpike speeds.

4

DELCO-REMY CONDENSERS assure correct electrical capacity and resist voltage breakdown. Hermetic seal keeps out harmful moisture, oil, and vapors.

Delco-Remy electrical parts are available at car or truck dealers, or through the United Motors System.

*MOTOR—June, 1959

Delco-Remy electrical systems



FROM THE HIGHWAY TO THE STARS

DELCO-REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA

Seal Installation Kit

Simplifies removal of upper rear main seal

R. A. R. Mfg. Co.: An upper rear main seal installation kit has been developed. It is designed to simplify removal of the old upper rear main seal and installation of the new seal. According to the manufacturer, the entire operation may be performed in 1½ hours by one man using the kit. *Write: R. A. R. Mfg. Co., 136B S. Broad St., Ridgewood, N.J.*

Drill Set

Offers ¾ in. drill set in steel carrying case



Ram Tool Corporation: Now being marketed is a complete ¾ inch drill set in steel carrying case. In addition to the Ram Drill the kit will contain 13 drill bits, tap threading set, 4 wood power bits up to one inch. The set also includes a U/L approved extension cord, 232 page illustrated fix it book, assorted nuts, bolts, screws in a plastic see thru storage box. *Write: Larry M. Stein, Assistant Sales Manager, Ram Tool Corp., 411 North Claremont Ave., Chicago 12, Ill.*

De-Icer

Melts frost and ice instantly

Osrow Products Co., Inc.: Developed is a chemical formula which melts frost and ice from auto windshield and window

panes, company claims. The "De-Icer" is said to prevent frost from forming overnight by pre-spraying windows and windshields with a light coat. To clear heavy ice formations, two spray coats are recommended. The "De-Icer" is contained in aerosol spray container with protective cap. *Write: Osrow Products Co., Inc., Dept. D., Glen Cove, New York.*

Brake Shoe Grinder

Modernized to allow the handling of shoes for new compacts

Ammco Tools, Inc.: Company has announced that its No. 4140 Fixed Anchor Shoe Grinding Clamp, an accessory for use with the Model 2000 "Safe-Arc" Brake Shoe Grinder, has been modernized. It now allows the handling of shoes for the new compact cars including Corvair, Falcon, Valiant, Comet, and Rambler. These vehicles use the Bendix non-adjustable Anchor Brake with 9" drums. Company has also made available a No. 4020 Kit to allow present No. 4140's in the field to be modified to handle these vehicles. *Write: R. D. Stevenson, Adv. Mgr., Ammco Tools, Inc., 2100 Commonwealth Ave., North Chicago, Ill., or 'phone DE 6-1101.*



Socketool Set

Handles almost all sizes of nuts, screws and bolts

Shelton Products: The new Super Socketool Set handles almost all popular sizes of nuts, screws and bolts. It is made up of a universal ratchet handle that works in either direction or locks. Into this handle either a straight or offset adapter is placed. Into these adapters a series of sockets can be fitted. A range of screwdriver bits can also be fitted into the universal ratchet handle for either slotted or recessed head screws. *Write: R. P. Lavietes, Secy. & Treas., Shelton Products, Inc., Drawer 32, Shelton, Conn.*

Oil Filters

Assures flow under extreme cold conditions

J. A. Baldwin Manufacturing Company: Announced are new VAC-CEL Models V-1-F and V-2-A depth type full-flow oil



filters. Oil filters feature cotton base material exploded in the elements at one stroke under 2,000 pounds pressure, company states. This process prevents channeling and setting, yet assures positive high flow even under extreme cold conditions. The V-1-F fits all Ford family cars 1957 through 1961 and all Chrysler Corporation cars 1958 through 1961, with throw-away. The V-2-A fits all General Motors cars 1959 through 1961, with throw-away, except Corvair. *Write: Ted G. Baldwin, Sales, Mgr., J. A. Baldwin Manufacturing Co., Kearney, Nebraska, or 'phone Cedar 7-2289.*

Continued on page 90

Stick with the Three R's for **MORE SERVICE SALES**

REPLACE WITH ROCHESTER RELIABILITY

Performance keynotes the Rochester-GM Service Line . . . stronger sales performance with more service orders and sharper performance in the cars you service. You will build customer satisfaction for more repeat business, too.

Backing up this performance is an old word with a most modern General Motors meaning: Reliability. Rochester Carburetor replacements—and the entire Rochester-GM Service Line—are built to go all the way, to perform as they are supposed to perform. Stick with the Three R's for more service sales.



Rochester Reflects Reliability

GENERAL
MOTORS

NEW UNITS



When your customer needs a replacement carburetor, make it a new Rochester-GM Carburetor. It's number one for original equipment and features the very latest engineering advances to give GM cars up-to-the-minute performance. It's engineered, manufactured and tested to the highest standards—and easy to sell at a new low price!

SERVICE KITS



If your customer is not ready for a replacement carburetor, you can give him top service and help yourself to a better business with the fast-moving Rochester-GM Service Kits. You can perform overhauls or quick carburetor cleanouts with the Overhaul Kits, Off Kar Kits and Kleanout Kits. They all mean better carburetor performance.

ROCHESTER CARBURETORS



America's
number one
original equipment
carburetors

Presenting...



Permite Preferred Cylinder Sleeve Assembly—cylinder sleeve, piston, pin and rings.

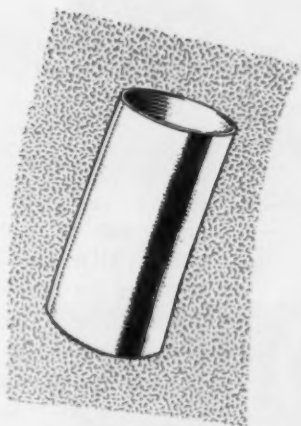
A Complete Line of **CYLINDER SLEEVE ASSEMBLIES**

Unmatched in HEAVY DUTY SERVICE!

***Precision-Engineered —
Performance-Tested***

Permite Preferred Cylinder Sleeves are centrifugally-cast and made from a special iron alloy to produce maximum hardness, with the lowest wear factor. All sleeve assemblies are equipped with individually engineered chrome piston rings.

To save time and trouble, and to insure the highest degree of performance, order the matched assembly consisting of cylinder sleeve, piston, pin and rings. A wide range for all heavy duty service, including a special line of Hy-Power sleeve assemblies for tractors, is offered in the complete line of Permite Preferred Parts. The name Permite has meant quality since 1921.



Permite Dry Sleeves

Permite Dry Sleeves are uniformly machined for easy installation and long life.



Permite Wet Sleeves

Permite Wet Sleeves have uniform wall thickness essential to even heat distribution.

*The Most Complete Line of Engine and Chassis Parts Available . . .
Bearings, Pistons, Cylinder Sleeve Assemblies, Valves, Water Pumps,
King Bolt Sets, Tie Rod Ends, Drag Link Assemblies,
Spring Bolts and Shackles, Stabilizer Links, Ball Joints,
Front End Suspension Parts . . . Today's Bigger and Better
Line of Permite Preferred Parts. Call Your Jobber!*

ALUMINUM INDUSTRIES, INC., Cincinnati 11, Ohio
In Canada—**BWH SERVICE PARTS LIMITED,** Merriton, Ontario
Warehouses In—Toronto • Montreal • Vancouver • Edmonton



Permite preferred

by vehicle manufacturers / car and truck dealers / garage and service men / fleet operators

New Products.Continued from page 86

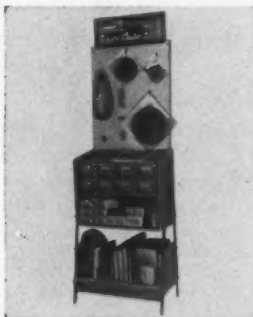
Visualiner Background

New background is now standard equipment

John Bean Division: An attractively redesigned and versatile Visualiner background has been introduced. The new background is now standard equipment for all Visualiner wheel alignment department installations. The new cabinet-type background is designed in red and white with black trim. A fully lighted transparent plastic section extends the entire width of the unit. Large screens for image projection and storage cabinets for tools and small equipment are built-in features of the new background. Write: *Harry Schaefer, Auto Dept. Mgr., Automotive Dept., John Bean Division, Food Machinery & Chemical Corp., Lansing 4, Mich., or 'phone IV 4-9471.*

Parts Display

Point of purchase for airbrake service



Velvac, Inc.: Features replacement parts for air brake service. The development of a compact "Service Center" merchandiser display which brings together a minimum assortment of most used replacement parts required for air brake service has been announced. The Service Center Display is designed particularly for truck dealers, service garages, fleet shops and truck stops. It brings together the most

needed parts for air brake replacement and repair, with every part easily identified and readily available. Diaphragms, cartridges, hose assemblies, couplings, switches, hose springs, tubings and many types of fittings—more than 65 different products essential for daily servicing of air brakes—are fitted into the merchandiser display. Write: *Antje Keller, Advertising, Velvac, Inc., 3534 W. Pierce St., Milwaukee 15, Wisc., or 'phone Leonard Grajek, Order Dept., EVergreen 3-1880.*

Chassis Dynamometer

Permits tests to be made under simulated road driving conditions

Clayton Manufacturing Company: A new series of Clayton "CT" Chassis Dynamometers is introduced. It is stated that eight basic models of this equipment (4 single-axle and 4 twin-axle) can handle light, medium, and heavy trucks ranging in capacities from 150 to 800 road horsepower. All models include roll assemblies for 22,500 lb axle loading, roll brakes, absorption unit, and remote load control. The Chassis Dynamometer permits tests to be made under simulated road driving conditions without the vehicle ever leaving the service floor states the company. Write: *Adv. Dept., Clayton Manufacturing Company, 459 N. Temple City Blvd., El Monte, California.*

Auto Lamp Guide

Covers foreign car makes
Westinghouse Electric Co.: Automotive lamp guide devoted exclusively to foreign car makes, has been released. Complete information on lamp requirements for foreign made cars is given. The manual lists the correct bulb number for each application on each car. In addition, sketches of

bulb bases and their proper designations as well as drawings of various types of miniature and sealed beam automotive lamps are provided. Write: *Westinghouse Electric Co., Advertising & Promotion Dept., Westinghouse Lamp Division, Bloomfield, N.J., or 'phone HU 4-3000.*

Specifications Handbook

Gives test specifications on starters, generators, distributors and regulators

The Automotive Electric Association: Recently announced is the issuance of the new 1960 edition of the AEA Electrical Specifications Handbook. This manual, gives the necessary adjustment and test specifications on starters, generators, distributors, and regulators. This data is listed by make and unit model number. It is particularly valuable as a reference when detached units are being repaired or tested. Includes specifications on passenger cars, trucks, tractors, marine and heavy duty units. Write: *Alfred E. Krapp, Office Manager, Automotive Electric Association, 16223 Meyers Road, Detroit 35, Mich., or 'phone UN 2-6336.*

Imported Car Registrations* For Month of November, 1960

	1960		1959
Volkswagen	14,370	Volkswagen	10,048
Renault	2,795	Renault	8,486
Fiat	1,093	Opel	3,125
Mercedes Benz	1,084	Fiat	2,887
Volvo	1,034	English Ford	2,796
Triumph	999	Hillman	2,014
Opel	980	Simca	1,897
Simca	953	Vauxhall	1,889
English Ford	845	Triumph	1,425
Austin Healey	795	Volvo	1,311
All Others	7,561	All Others	11,901
Total	32,479	Total	47,779

Eleven Months Total 1960 1959

Volkswagen	144,472	Volkswagen	104,954
Renault	80,322	Renault	82,908
Opel	24,483	English Ford	39,000
English Ford	22,983	Opel	36,610
Fiat	19,867	Fiat	35,539
Triumph	18,775	Simca	33,084
Simca	16,273	Hillman	29,442
Austin Healey	15,570	Vauxhall	21,770
Mercedes Benz	13,230	Triumph	21,577
Volvo	13,025	Volvo	17,037
All Others	119,561	All Others	140,260
Total	466,451	Total	559,201

* Data from R. L. Polk & Co. All rights reserved. Re-use prohibited.

NEW AC MARINE SPARK PLUG TWIN-PAC and DISPLAY RACK



THE FASTEST WAY TO MORE MARINE SALES and PROFITS

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With AC's new Twin-Pac Display Rack, customers sell themselves! The rack holds up to 40 fast-selling Twin-Pacs. There's a handy specification sheet under the Twin-Pac Display Rack "header" for customers to find the correct spark plug for their outboard engine.



Get an early start on the boating season. Order AC's new SPM-85 Marine Spark Plug Promotion Package. It includes 24 Twin-Pacs of AC Marine Spark Plugs, the new Twin-Pac Display Rack and colorful promotion banner. AC spark plug types included cover 86% of all outboards. Order now from your AC supplier.

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MORE POINT-OF-SALE PROMOTION FOR YOU FROM



MOTOR AGE CLINIC

for troubleshooting

BY JACK MONTGOMERY, TECHNICAL EDITOR

Willys Station Wagon Blows Head Gasket Between Three and Four Cylinder

We have a 1956 Willys 6 (L Head engine) station wagon that has been giving us trouble. It is blowing the head gasket out between 3-4 cylinder. The head was planed down 2 times and we used different head gaskets torqued to book specs. However, when we installed the last gasket a Willys mechanic suggested torquing the head bolts 60 lbs.—so I did this. Do you think this was advisable? What suggestions do you have covering this trouble?

Edward Lewis
Idaho Falls, Idaho

USUALLY when you have a condition like this it is due to a warped head or block. If the block is warped it would involve a major operation to correct it. Planing the head to sixty (60) lbs. is all right—but if it blows again, try using some nonhardening cement on the gasket. Then torque the head after engine has been run a few days.

Hard Starting Problem With Olds And Pontiac

I am writing to you about hard starting Olds and Pontiac's. I know there are lots of things that could cause a car to be very hard starting. But suppose you have good compression and ignition and plenty fuel in proper proportions. What else could

make these cars to be hard to start after setting for a short time? I have had several of these cars, both Olds and Pontiacs lately, and some start very easy no matter how long they set, then others just seem to not want to start until after cranking for quite a few minutes. I would like to hear from you on this subject as soon as possible.

Samuel H. Schaffer
(Sam's Garage)
Spokane 17, Washington

USUALLY when you run into this problem it is due to the carburetor bleeding vapors into the manifold. I would suggest you check the float level and the needle valve and seat. Make sure the heat damper valve is operating properly.



Tips On Testing The New Alternators

POLARITY of hook-up while testing new alternators is of utmost importance. Don't short between terminals nor attempt to ground wires by shorting with a screwdriver. Never ground field circuit. Remember, battery voltage exists at every terminal of the alternator if Silicon rectified and at the selenium rectifier terminals on earlier models. Double check polarity when hooking-up battery cables. Double check polarity when using jumper cables. Keep connections clean and tight at all times. Slipping belts are the biggest trouble makers, check em! When removing wires from regulator and alternator always disconnect battery ground cable.

1957 Mercury Has Electrical Problems

We have a 1957 Mercury Turnpike cruiser that has a serious fluctuation in the lights. It is noticeable with only courtesy and dome lamps on with the engine at absolutely steady throttle of 800 or 900 engine r.p.m. The fluctuation is about the speed of a person blinking his eyes. It increases with engine speed. At high speed it is too fast to see. The car was tested for generator output, for resistance on the insulated side of charging circuit, for ground accessory test and for voltage and current setting of

Continued on page 96

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your car.....

*for the
lustre that
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The SIoux H. D. No. 1200 Polisher is shown in action. Polish jobs turn out better and take less time with proven equipment like this. This is a favorite in shops and service stations from coast to coast. It has the balance, the touch, the power. Famed Sioux dependability delivers the extra margin of trouble-free tool life. It's the best buy in the long run!



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BRAKE PARTS

says the customer.



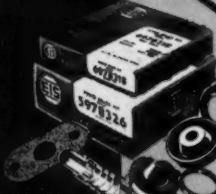
pencils start to write

When you consider the vital job brakes must do — the brake parts you use for replacement become mighty important. They must combine the seasoning of experience with advanced engineering and their performance must leave nothing to chance.

These qualities are characteristic of EIS — The Brake Parts Line. Now, add informative packaging, quick-reference catalogs and wall charts, point-of-sale merchandising cabinets plus immediate availability from 39 strategically located warehouses. The result is a profit-producing Line that gets top position on most every order form.



COMING YOUR WAY IN FEBRUARY! THIS NEW, CONDENSED, HYDRAULIC, POWER BRAKE AND CABLE CATALOG will be mailed to every Repair Shop, Service Station, Garage and Car Dealer in the country! WATCH FOR IT!



BOOTHS 2554-5, 2619-20 at the IASI Show in Los Angeles
EIS AUTOMOTIVE CORP. Middletown, Conn.

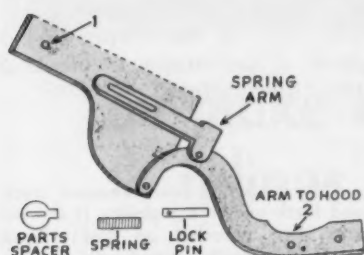
BODY SHOP TIPS

Using Masking Tape On Sandpaper Saves Fingers

Sanding paper works better when folded in $\frac{1}{8}$'s or $\frac{1}{4}$'s. But somehow the gritty side always seems to come up so it rubs the fingertips raw after much use. The next time, with the shears, cut a small piece of old, used sandpaper $\frac{1}{2}$ inch smaller all around. Turn the gritty side down and using 2 short strips of masking tape, tape it in the center of the folded sandpaper pad. This only takes a couple of minutes and will give you a smooth surface to press on. *G. D. Lynch, George's Garage, 70 Woodfin Ave., Asheville, N.C.*

Replacing Hood Springs On 1957-58 Fords

This is how to replace hood springs on 1957-58 Fords off the cars. Insert spring on spring



arm. Lay bracer on top of spring. Place pin through No. 1 hole

BODY SHOP TIPS are worth

\$7.50

If you've developed an Idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

half way. Put slight pressure on arm No. 2 on the ground. Let pin touch the extension of bracer while applying pressure when hole in spring arm lines up with hole No. 1. Tap lock pin in place. Then replace copper pin. *B & I Body & Fender Repairs, 723 Van Sinderen Ave., Brooklyn 7, N.Y.*

How To Make Screws Hold In Oversize Holes

Here is a tip I find very handy to cure enlarged and over-size screw holes. Particularly those behind the door and windshield garnish mouldings. Insert a name plate speed nut into the oversize hole. The screw will enter and hold. *J. G. Matlock, 308 West 6th St., Colville, Washington.*



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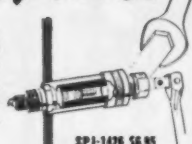
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Are you now operating a radiator dept.? ☐ Yes ☐ No

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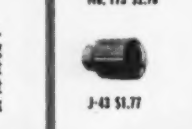
J-42 \$1.11

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BENDIX BRAKE TOOL. Both ends designed to adjust all type Bendix brakes. Extra long!



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SHOCK ABSORBER TOOL. Three tools in one. Insures quick installation-removal of shocks on all General Motors, Ford and Chrysler-make cars.



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CATALOG



Clearing House Continued from page 92

regulator. All are within specs. The generator has been removed. The commutator has been turned and new springs and brushes installed and bench tested. The output again is with specs. The regulator has been replaced with a new one. Still the same condition exists. The battery is a genuine replacement one year in service and tests OK. This condition does not occur immediately upon starting the car. But it happens after about 1 minute or so of running at charging speed, depending on how much the battery was discharged in starting.

Robert L. Myers
Lancaster, Pa.

ASSUMING everything is in order that you mentioned, I would suspect that you have a poor ground somewhere along the line. I would suggest running a new ground from the engine to the body. Also make sure the headlights are grounded to the fenders. The same condition could cause the indicator light to show faintly.

Hard Starting Condition In A 1954 Plymouth

We have been unable to correct a hard starting condition in a 1954 Plymouth equipped with Powerflite transmission. The engine starts promptly when the car is cold, generally on the first turn. The trouble develops after the car has been run up to a normal operating temperature and stopped for about 10 minutes. After the engine has stood about 10 minutes it takes an awful lot of grinding to get it started. Once it is started you can stop it and get it started again promptly if not allowed to stand more than a minute or two. We have checked the distributor, installed new points and condenser and new coil. We have tried another

carburetor. None of these things seem to help. The car runs perfectly and never gives any starting trouble unless it has been run a few miles to be thoroughly warmed up. Stop it for 10 minutes and you can hardly get it started. If it stands for 30 minutes it will start OK. Any suggestions you may give us to help will be appreciated.

Robert Preusse, Shop Foreman
H. J. Prichard & Son
Falls City, Nebraska.

I ASSUME you mean that the starter spins the engine, but it just won't start. If the starter is OK, then I would suggest checking for vapor lock. This could be caused by a stuck exhaust manifold heat valve, causing the carburetor to boil the gas and bleed into the manifold while parked. I would suggest after parking the car, raise the hood and remove the air cleaner. Looking into the carburetor should show if carburetor is bleeding into the manifold.

The oncoming car weaved back and forth over the highway. It slowed and then speeded up and slowed again. Finally it banged into another car crumpling the fender.

"Oh, I'm so sorry" cooed the woman driver as she surveyed the damage. "I'm afraid I'm just learning to drive."

"It's really my fault" ruefully sighed the man whose car had been hit. "You see, I saw you coming in plenty of time to get off the road!"

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Build up your reputation and customer confidence—always use new National Oil Seals on repacks or relines. You turn out a top job, make extra profit, and everyone is happy! New National Oil Seals hold fresh grease in the bearing where it belongs, prevent bearings from running dry and wearing out, and keep dirt out.

Take a tip from the experts. Whenever you remove an old seal, replace with National. You'll find the most needed seals in the Safety Cabinet and your National Seal jobber will keep the stock in line for you! Call him today.

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Brake Service Continued from page 76

rear wheel cylinder was removed should be thoroughly cleaned and a graphite lubricant applied liberally on the area. Lubricate the anchors and the steady rest posts. When reinstalling the rear wheel cylinder after rebuilding or replacing it as shown in the illustration, lift the lever up and insert the rear cylinder into the oblong slot of the backing plate.

Then release the lever which will then lock the cylinder to the backing plate. The wheel cylinder should be free to move up and down in the oblong slot. Next slip the rubber boot over the lever assembly and connect the brake line tube fitting to the wheel cylinder. Do not connect the brake cable clevis at this time.

When assembling brake shoes

make sure that the micram adjusters are backed off to their fully released position. Then assemble brake shoes on the floor or bench with the springs and micram adjusters in their proper position as shown in our illustration. Then with both hands hold the brake shoes in proper position and lower them onto the backing plate. Then with a screw driver, pry the lower shoe onto its anchor.

After installing the rear shoes don't forget the small anti-rattle springs, or holddown springs, and remember to back off the adjustment all the way as illustrated. With a new grease seal on the front brake drum assembly, install it on the spindle. Remember that the wheel bearing and seals are all assembled into the brake drum and then the complete assembly is forced onto the spindle. Normally, a straight firm push of the brake drum and hub assembly should seat it on the spindle. Apply the keyed flat washer and the castellated nut and secure firmly with about 55 foot pounds of Torque on the castellated nut, then install the cotter pin. Caution. Don't back off on nut. On the rear wheels, slip the multi splined rear brake drum hub onto the axle shaft, align the spline and force the drum on firmly with both hands.

Apply the flat washer with the relieved center hole of the flat washer facing the axle shaft, then apply the castellated nut and secure firmly. Then install cotter pin.

Brake Adjustment

To adjust the brake shoes, make sure that before installing wheels to drums that the brake adjusting hole in the drum is aligned with the brake adjusting hole in the wheel.

For the front wheels, there are two adjustments, one for each of the two wheel cylinders and on the rear wheel there is only one adjustment for the one wheel cylinder. Using a flash light, or a drop light rotate the front wheel until the adjusting hole is just opposite the front wheel cylinder micram adjustment. Insert a screw driver and turn clockwise until the wheel locks, then turn counter-

Continued on page 100

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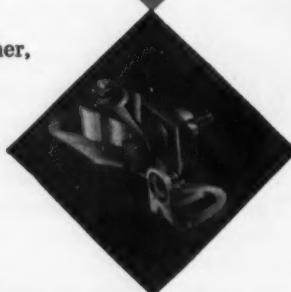
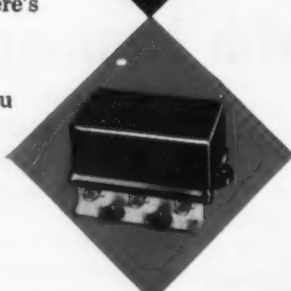
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☐ Impact Wrenches

Brake Service Continued from page 98

clockwise one click on the micram adjuster.

Repeat this procedure for the rear cylinder of the front wheel, then proceed to the other front wheel and repeat the same operation, remembering to turn off counter-clockwise one click of the adjuster. On the rear the same thing applies. Insert the screw driver, turn it clockwise to tighten until the wheel locks, then counter-clockwise one click which should free the wheel.

To adjust the hand brake, release the two adjusting nuts on the

handbrake cable right behind the hand brake lever located between the bucket seats. Rotate the brass adjusting nuts on the cable until there is adequate slack in both cables, then install the emergency brake cable clevis pin at each of the rear wheel cylinder actuating levers.

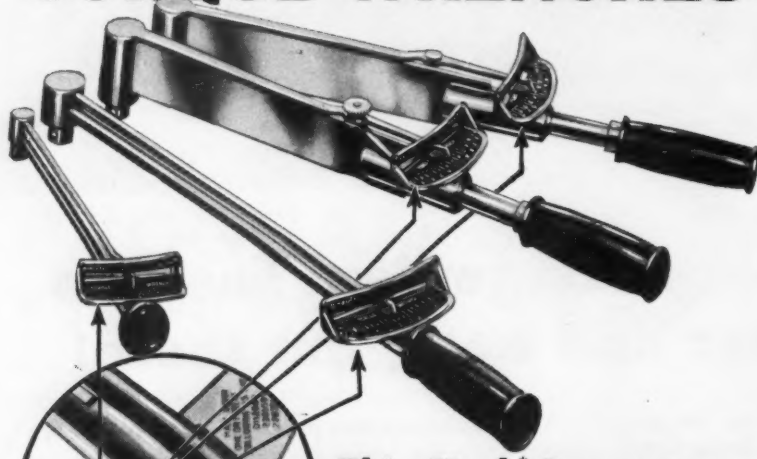
Then apply the hand brake lever so that it will have reached the fifth notch on the ratchet. (The rear brakes must have new lining and be fully adjusted before attempting to set the handbrake.) Next, adjust the two brass cable

adjusting nuts until each rear wheel can be turned equally under heavy pressure.

Make sure that each rear wheel offers equal resistance turning to get the best and most efficient braking effect. Then return the hand brake lever to the off position and double check that the rear wheels are free. If one brake hangs more than the other, check that wheel for a weak retractor springs, or a bind where the rear wheel cylinder slides in the backing plate.

After this adjustment no further adjustment should ever be attempted on the nuts again until after a reline. Any further adjustment to the handbrake setting is done automatically when the rear wheels are set by the micram adjusters. In bleeding the brakes the conventional foot method is most acceptable.

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1961 Events Calendar

Feb. 14-15—Automotive Service Industry Assn. national convention, Biltmore Hotel, Los Angeles, Calif.

Feb. 16-19—Pacific Automotive Show presents ASI Show, Sports Arena, Los Angeles Memorial Coliseum, Los Angeles, Calif.

Feb. 18-26—Chicago Auto Show, Chicago Exposition Center, Chicago.

Feb. 22-26—11th Annual National Autorama, Connecticut State Armory, Hartford, Conn.

March 13-14—Louisiana Automobile Dealers Assn., Roosevelt Hotel, New Orleans.

March 20-22—Motor Vehicle Maintenance Conference, University of Washington, Seattle, Wash.

March 26-28—Iowa Automobile Dealers Assn. Meeting, Hotel Fort Des Moines, Des Moines, Iowa.

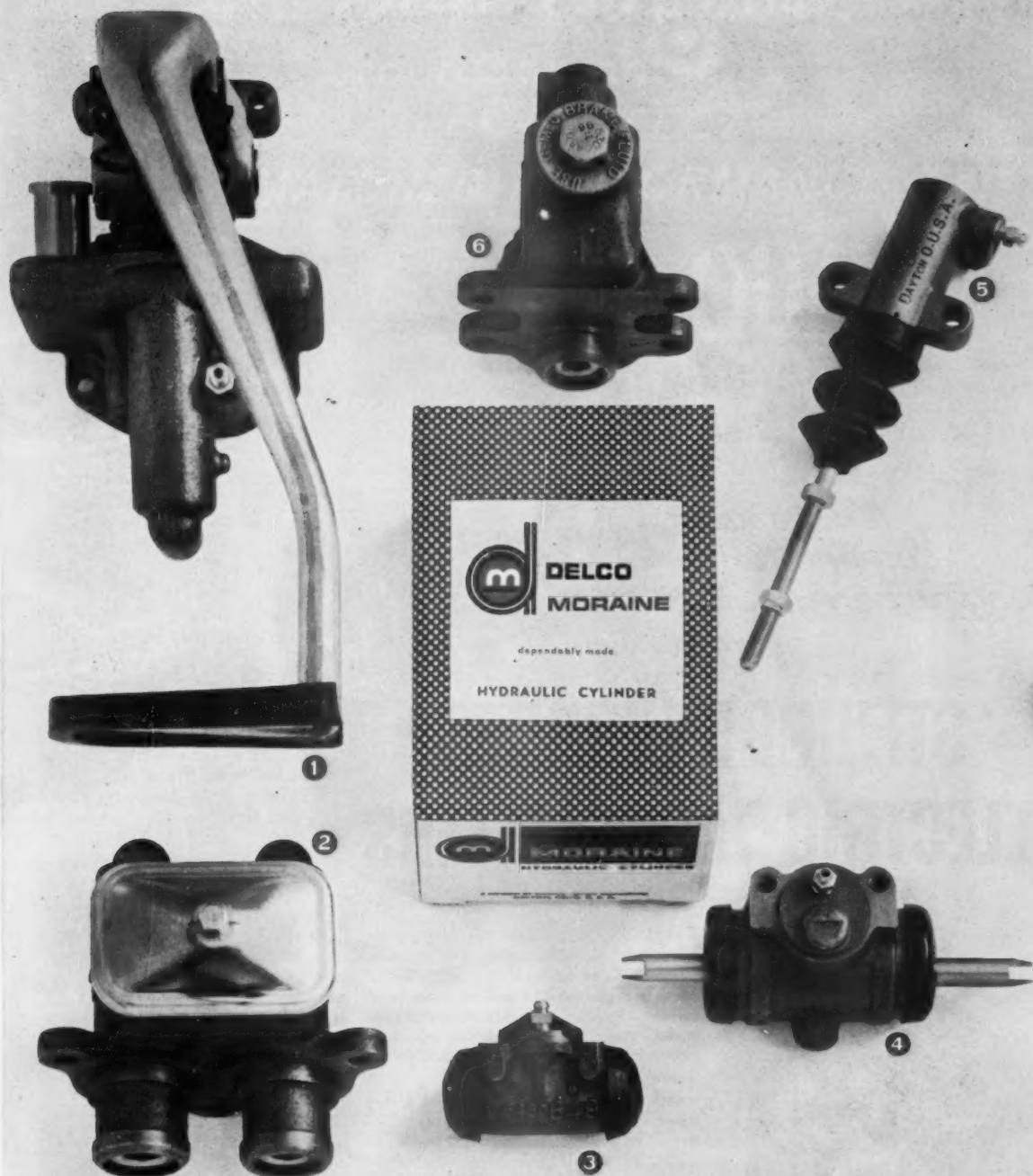
April 13-15—43rd Anniversary National Truck, Trailer & Equipment Show, Great Western Exhibit Center, Los Angeles, Calif.

April 23-25—Automotive Trade Assn. of Virginia, John Marshall Hotel, Richmond, Va.

April 27-29—Upper Midwest Automotive Trade Show's Service Clinic, Minneapolis Auditorium, Minn.

April 30-May 2—Michigan Automotive Wholesalers Assn. Meeting, Pantlind Hotel, Grand Rapids, Mich.

May 11-13—Pennsylvania Automotive Assn. Meeting, Hilton Hotel, Pittsburgh, Pa.



How Delco Moraine Simplifies Brake Service

- ① Vertical Mount Master Cylinder
- ② Clutch-Brake Master Cylinder
- ③ Wheel Cylinder: Cars
- ④ Wheel Cylinder: Trucks
- ⑤ Clutch Cylinder
- ⑥ Master Cylinder: Cars, Light Trucks

Delco Moraine meets brake service needs with parts and full assemblies that can immediately be used to replace original equipment units. All are made to original equipment specifications; all are protection-packaged for easy stocking, quick identification. A quarter-century of experience in the manufacture and maintenance of brake systems is your assurance of satisfaction. Delco Moraine original equipment brake parts are used in more than 31 million vehicles on the road today. All Delco Moraine brake products are readily available through General Motors car and truck dealers and the United Motors System.

DELCO MORaine

DEPENDABLY MADE Division of General Motors, Dayton, Ohio



Tow Truck Continued from page 55

Joe says: "That no matter how good a mechanic is, if he doesn't have the best in tools and equipment, he is at a disadvantage in turning out a good job." All work turned out at Joe Chandler's is guaranteed 100 percent and up to a year in many cases. According to Joe, if a customer comes in and wants a patch work job, Joe politely tells him to go elsewhere.

He will not guarantee or turn out a half done job. "Happy customers are satisfied customers" Joe says. "When I turn a car out of my place I know that it will not let my customer down. I insist in checking

the car over thoroughly first and then do the needed repairs. All cars are repaired as close to factory specifications as is humanly possible."

The auto and truck repair shop of Joe Chandler's is located on a well traveled highway and has a wide apron to the street for easy access. Total frontage of the shop and parking area is 75 feet. It has a depth of 265 feet. The cinder block building is 34 x 50 feet. It contains an office, washroom and the service department.

It is well lighted and heated. There is a large overhead door in front and an exit at the side to keep

traffic flow rolling smoothly. A well-stocked parts department with fast moving parts is located on the second floor above the office.

Joe's two employees are trained on the job. As an incentive to keep the men at his place, he offers to buy a tool for each tool a mechanic purchases. If they remain with him four years he gives the tools that he has purchased to the mechanic. Other incentives are good working hours, pleasant surroundings, paid vacations and sick leaves.

Another indication of Joe Chandler's fame is the fact that when a customer of Joe's sells his car the used car dealer usually puts a sign on it stating "Serviced by Joe Chandler." The car is always snapped up the first time it is offered for sale. Customers come to Joe Chandler's place for service as far as 100 miles away. "That's really loyalty," Joe says proudly.

And well he might be proud of his repair work. Joe has an exceptionally well equipped garage. Being a machinist by trade also made him aware of the necessity of having the best and most up-to-date equipment on hand for all types of work and emergencies.

Among Joe's equipment are: an oscilloscope, wheel balancer, tire changer, lathe, brake religner, valve face grinder, hydraulic service tools, front and rear end lift, front wheel alignment equipment, brake drum lathe, stroboscope, spark plug cleaner, headlight aligner, battery charger and a slow charger, air compressor and a welder.

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engine performance
with . . .*

STEWART-WARNER ELECTRIC TACHOMETERS



Every day more and more of your customers are becoming performance minded. They know that engine "revs" are important. And the best, most profitable way for you to satisfy them is to install the finest tachometer made—a Stewart-Warner "100" Series Electric Tachometer.

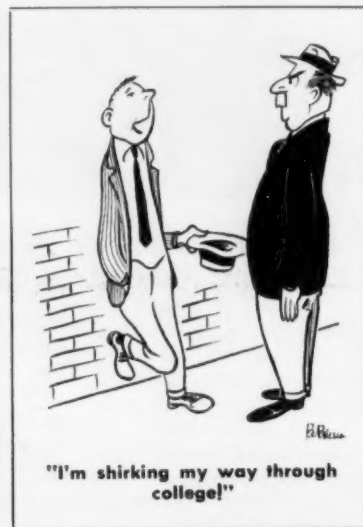
All the care and precision of a fine timepiece has gone into the making of these superb easy-to-install instruments. A "tuned" circuit provides absolute accuracy without indicator-needle flutter from idle to maximum r.p.m.

Stewart-Warner Electric Tachometers are available for all 4, 6 or 8 cylinder engines with 6 or 12 volt distributor ignition systems. Dials read to 5,000, 6,000, 8,000 r.p.m. Top-of-dash, through-dash or steering-post mounting.

Dept. AD-21,
1840 Diversey Parkway, Chicago 14, Ill.



INSTRUMENT DIVISION
STEWART-WARNER
CORPORATION



THE *Blue Box* LINE

...Your Guarantee
of *PERFECT*
MATCHED-PERFORMANCE

... **McQUAY-
NORRIS**



Rings, pistons, pins, bearings, valve train parts, water pumps, chassis parts? All parts in the McQuay-Norris line—designed and manufactured to the same high standards of quality and precision—are known for uniform performance and

longer service. Your McQuay-Norris Wholesaler is "replacement parts headquarters" to mechanics all over the country who have experienced the satisfaction of working with the McQuay-Norris line. Use them on your next job.

McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS • TORONTO

© 1961 McQUAY-NORRIS MANUFACTURING CO.



Training Mechanics Continued from page 57

year, which will permit more courses and more men trained."

In addition to the gratifying response from dealers, fleet operators have taken an interest in the AMC program. Fleet operators doing their own maintenance work have asked their men to sit in on classes whenever the mobile unit comes into their area. Unlike component training courses for dealers, fleet opera-

tors are usually given a special "Product Training" course. It covers the entire vehicle.

If the fleet operator finds his mechanics need more training on a particular component, he is then set up on a regular schedule by AMC. AMC will invite him to the course whenever it returns to the fleet operator's area. Fleet operators taking advantage of the AMC courses

have included cab companies, car rental agencies, light and power companies, insurance firms, city and county municipalities and government agencies.

"The fleet boys are very enthusiastic about our program," Buck explains. "Many have asked us to come back with specific subjects. We're going to work with our fleets very closely."

AMC did not jump into this program haphazardly. One of the first things it did before it launched the mobile training program was to find out what subjects dealer mechanics desired to be taught. Then it laid out a well-formulated program for each of the most popular subjects. It covered every phase of a component which required up-to-date information by the men in the field.

When the trailer rolls into a town it is prepared with all the essential teaching aids to take care of a specific course that had been requested by a majority of the dealer mechanics in the area. Not much time is wasted on preliminaries. Instructors get right into the heart of the matter—theory, actual application of the component itself, disassembly and assembly. When necessary an actual automobile is brought on the scene, and a full day is devoted to studying its components as related to one another. In case of bad weather a portable carport is set up at the back of the trailer and training goes on.

"We have worked into our schools all possible aids and information which we could translate to the mechanic to make his job simpler," points out Buck.

Each trailer unit is manned by one instructor. It's his "baby." In addition to teaching the classes, it's his responsibility to keep the trailer and equipment in working order at all times. He drives the unit to the designated area. He maintains it himself. Occasionally a local factory service representative may be asked to assist him when the load becomes too great.

Each of the mobile units is deployed in a strategic area, depending on dealer population and geography. From that point it moves around in a continuous circuit which covers several states. The five units in operation now quartered in San

Continued on page 106

**MORE
VALUE**

**MORE
COMFORT**

**WHEN
YOU
BUY**

JEEPERS CREEPERS



"MODEL C"
"LIFETIME" CREEPER

The standard of quality. Practically indestructible. Comfortable plastic-covered headrest. Rolls easily on big 3-inch wheels.



MODEL "J"
ECONOMY MODEL

A Sturdy, low-priced lightweight creeper. Comfortable headrest. Big 3-inch wheels for easy rolling, yet very low-slung.

See the complete Jeepers Creepers Line

AT YOUR JOBBERS

JEEPERS CREEPERS BY

Lisle Corporation
Clarinda, Iowa



By the Manufacturers of
Lisle Automotive Tools,
Hydraulic Brake Parts,
Brake Cable Assemblies,
and Original Equipment
Components for the Aircraft
and Automotive Industries

THEY'RE MADE FOR EACH OTHER.



BOXED
KITS
OF FITTINGS
NUTS, BOLTS

to install
**MOTOR
MOUNTS**



**FOR QUICK EASY INSTALLATION
BETTER BUY BOTH**

A perfect combination to make motor mount installations less time consuming has just been created for YOU! Next time you buy replacement motor mounts be sure to ask for the handy "time-saver" installation kits. This is a separate box containing all the nuts, bolts, fittings, etc. to make your job easier, faster. Don't buy one without the other. You won't have to worry about shearing a bolt when removing a stubborn mount.

Call your favorite jobber. He stocks a complete line of Motor Mounts and Matching Installation Kits.

**TIME IS MONEY
...SAVE IT!
BUY MOTOR MOUNTS
AND INSTALLATION KITS
IN COMBINATION**



ANCHOR RUBBER PRODUCTS

A DIVISION OF ANCHOR INDUSTRIES, INC.

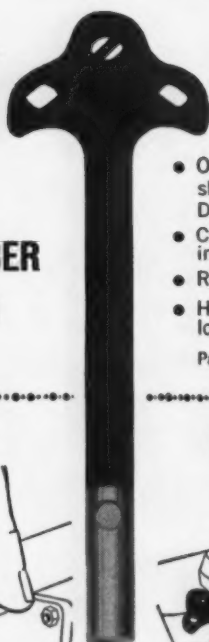
1725 LONDON ROAD • CLEVELAND 12, OHIO



At a recent meeting of the Independent Garage Owners of Metropolitan Denver, Congressman Byron Rogers (standing) of the 1st Congressional District of Denver was guest speaker. Seated at table, from left to right: Gerald Davis, vice president; Ross Gentzler, treasurer; Jimmy Kientz, secretary; Dick Jones, president; and Bill Kenz, program committee chairman.

NEW

**Universal
SHOCK ABSORBER
TOOL by K-D**



- Only tool which handles all shocks on all cars—including Delco
- Cuts valuable minutes from installation time
- Reaches where others can't
- Heat treated for rugged use, long service

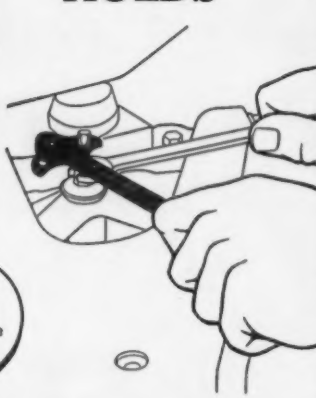
Patent applied for

PULLS



This shock absorber tool reaches down through mounting hole, screws onto stud end, pulls it up into place for easy mounting.

HOLDS



A wrench opening for each shock type (including Delco) keeps stud stationary and eliminates twisting while mounting nut is tightened.

#465

\$1.75

Eastern resale
Higher
in West

Ask your tool supplier for this new time-saver. It makes shock work so easy you can't afford to turn away the profit.

K-D TOOLS Make Hard Jobs Easy

K-D MANUFACTURING COMPANY
Lancaster, Pa.

Training Mechanics..

Continued from page 104

Francisco, Kansas City, Detroit, New Jersey and Atlanta.

At the end of each training session, there's a questionnaire for the students to answer. Such queries as how they like the school, whether they have any ideas for improving it, type of subjects they would like in the future and how often they would like to have the mobile units return. "The response to these has been highly encouraging," says Buck. "We have been computing the results and it's interesting to see the subjects they most desire. We keep track of them here and then offer the subjects at a later date."

"For instance, in our Atlanta zone we found that the subject of most interest seems to be air conditioning. Our mechanics there want more training on this particular component. So the next time we hit that area, we will concentrate mainly on air conditioning."

How about the cost to the dealer? Practically nil. Most training courses offered by the auto industry have been expensive to the dealer. In most cases, the service technician has to travel anywhere from 100 to 1000 miles to attend a training school sponsored by the factory. He may be gone for a week's time.

The American Motors' courses are free to the dealer. "There isn't any charge to our dealers," says Buck, "except to furnish us the men—and possibly pay for their lunch."



Robert Hankinson, above, will retire from Ross Roy—B.S.F. & D. (Detroit) on March 1. He served as technical editor of "Motor Age" from 1935 to 1942 when he joined Ross Roy as copy editor of Operation and Maintenance Manuals prepared for the Armed Forces during World War II.

OUR COMPETITORS WILL NOT LIKE THIS



You, however, will be our life-long friend. Reason? Nifty little box shown above. Introduces a delightful new method of stocking replacement coils. Buy just one counter-sized box, you've got solid coverage of more than 1500 different automotive, marine, industrial and farm applications. How easy can it get?

What's the secret? New Autolite Universal Ignition Coils. Three coils are all it takes for coverage. What kind

of coils are they? Genuine oil-filled ones. All fully guaranteed. The kind of coils you can sell with confidence.

So that you can have a complete coil inventory on the counter, we pack the coils four to a display box. Two of the six-volt type, two different 12-volt types in each. Packed complete with application data. Better order a box. Come to think of it, while you're at it, better order several. They won't last too long.

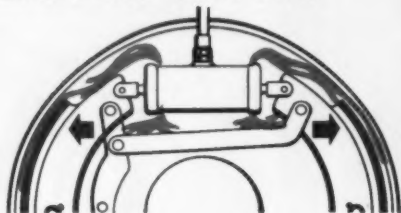


AUTOLITE
SERVICE PARTS DIVISION • TOLEDO 1, OHIO

FOR BEST RESULTS..... on vehicle whenever



Brake jobs that do not include wheel cylinder inspection and service are only half-safe—AND HERE'S WHY:



If a worn cylinder is not repaired or replaced, brake fluid may leak out, causing:

1. Dangerous loss of brake fluid and loss of pedal.
2. Fluid-soaked lining, causing brakes to grab dangerously or pull to one side.



You're always right with the Quality Line

Wagner® Lockheed®

the best known—and most trusted name in brake service products

LOCKHEED BRAKE PARTS, FLUID, BRAKE LINING and LINED BRAKE SHOES • AIR HORNS • AIR BRAKES • TACHOGRAPHS

check all wheel cylinders worn brakes are relined!

When replacements are needed, use **Wagner® Lockheed®** **BRAKE PARTS**

unsurpassed for restoring original braking efficiency

Why let your customers be only half-safe?
Just because a car owner says "Reline the brakes"—why do only that? Spend a little time making a safety-check.

It may disclose that other parts, such as cylinders, need to be replaced to make a job safe—instead of only "half-safe."

Your customers place their safety in your hands when they come to you for brake service. They depend upon *your choice* of brand of products needed for service.

For safety's sake—standardize on Wagner Lockheed. You're always right with this quality line.

Wagner® Lockheed® Brake Parts Fit Right—and function correctly. This is possible because they are manufactured by the

same machinery—to the same specifications—as Wagner parts used for O. E. M. (Original Equipment Manufacturer) needs.

Line is Most Complete on the market... includes master and wheel cylinders, repair kits, pistons, springs, washers, cups, hose and all related items for every make and model vehicle.

Quickly Available from your Wagner Distributor who also supplies Wagner Lockheed Brake Fluid, Brake Lining and Lined Brake Shoe Sets.

BECOME A FRANCHISED DEALER

of Wagner Lockheed Products... gain special advantages. Learn how easily you can qualify... ask your Wagner Distributor, or write us.



FREE... Request a copy of Catalog AU-500. It covers complete Wagner Lockheed line of brake parts, fluid, and lining. This offer holds good until our supply of catalogs becomes exhausted... better act NOW!

Wagner Electric Corporation

6498 PLYMOUTH AVENUE, ST. LOUIS 32, MO., U.S.A.
(Branches in principal cities in U.S. and in Canada)

Please mail us a FREE copy of Catalog AU-500 on the Wagner line of Hydraulic Brake Products.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY & STATE _____

WP61-1

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES

Detroit Report...

Ford's Cardinal To Use V-4

The various engines reported as under development for Ford's compact-compact have been sorted out. Final choice is the narrow-angle V-4. It has a displacement of 108 cubic inches and puts out about 65 horses. It's water-cooled and has a cast-iron block.

Initially, this engine was made without a fan and the driveshaft extended forward, driving the front wheels. It persisted in overheating, however, and front-wheel drive proved to be either too expensive or too troublesome. To bypass these difficulties, Ford engineers went back to a more conventional design. They switched the engine end for end and added a normal cooling fan run off the driveshaft. (Earlier prototype engines had both electrically driven fans and weird arrangements in which the camshaft was extended with a fan bolted to its end.) The V-4, still hiding under a Saab hood for test purposes, will drive the rear wheels on the 96-inch-wheelbase Cardinal when it has been hatched.

Ford's offer to buy complete control of Ford of England indicates that the Cardinal is to be a real international project.

Basic engineering of the automobile is being done right in Dearborn, but ultimate production will be scattered across the U.S., England, and the continent—the deciding factor as to which components will be produced where will be cost. Sales will be on a similar international basis; the car will be sold in this country, but all of Ford's eggs won't be in the domestic basket.

When will the fledgling leave the nest? Probably not before the 1962 new car season, and it looks now as if the introduction might be even later. Too many loose ends are still hanging for the Cardinal to be nudged out in anything less than six months.

Pretty Plugs Don't Count!

Almost everyone agrees, Autolite doesn't make the prettiest spark plugs in town. The new shiny

kind are much more attractive. Obviously, there is a reason why these plugs are blue. The color itself doesn't make any difference. But it does tell you a lot about the way the spark plug is made. Example: the way the shell is sealed to the insulator. This seal guards against loss of compression, sluggish performance, poor fuel economy. In building its blue plugs, Autolite seals the shell to the insulator under tremendous heat and pressure. No plated shell could stand this treatment; it would crack, peel, discolor. Plated spark plugs are usually caulked with powder and the shell crimped to the insulator. This difference in sealing methods is really important.

50% More Tire Mileage

New Firestone Transport-100 truck tire, after 100 million miles of fleet tests, delivered 50% more tread mileage than regular original equipment Firestone truck tires. New tire, a result of five years of research, features recently developed torque-toughened Firestone Rubber-X compound. Deep grooves are buttressed for added strength and new tread design equalizes load distribution, reduces slippage. Company claims that even at half-worn point, Transport-100 will deliver more drive-wheel traction than other tires when new. Tire has been "noise-treated" for quieter running, and is available in Nylon or Tyrex cord—tubeless or tubed. Most obvious advantage is substantial saving for fleet owners in tire maintenance and replacement costs; but additional safety is provided by Firestone's longer lasting traction.

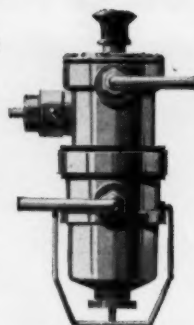
Bigger Wheels for Small Buick

You can't leave customers hanging, so Buick recently announced its compact Special with 15-inch wheels instead of the standard 13-inches. The optional bigger wheels give customers in rural areas a bit over half an inch more ground clearance for rutted roads.

Improve Engine Performance

The Stewart-Warner Electric Fuel Pump promises quick starts in all weather. No more hot-weather vapor lock or hard starting even when the temperature's way down.

The quality-engineered Model 240-A features an automatic pres-



Gus Wilson's

This month it's Stan Hicks, Gus's right-hand man, who finds himself tangled up with a quartet of mysterious strangers, whose ancient sedan has broken down on the road. Stan's offer to help is rudely refused.

They could be hunters, of course, but they look more like gangsters—and the radio has just announced a bank robbery in nearby Evansville. Then Stan's worst fears are confirmed when

A REGULAR MONTHLY

POPULAR SCIENCE READERS

sure regulator. It automatically maintains desired pressure at carburetor from 1 psi to 8 psi, delivers up to 60 gallons per hour. A built-in fuel filter eliminates need for any other filter in the fuel system.

The popular Model 220 finds wide use where delivery requirements do not exceed 20 gallons per hour and pressure requirements are not critical.

4.0 Rating

Tempest, Pontiac's entry in the '61 compact sweepstakes, introduces some revolutionary concepts in auto

from Popular Science *Monthly*

355 Lexington Avenue, New York 17, New York

design and engineering. Car's 4 cylinder power plant delivers up to 155 horsepower. There's independent suspension on all 4 wheels. Tempest is available in either 4 door sedan or station wagon, and 4-barrel carburetor and automatic transmission are optional. Trophy 4 engine is up front—but don't look for the transmission in the same area. You'll find it in the rear on the Tempest. Distributing engine and transmission weight, cuts weight in front, improves traction and braking, adds to tire life, and makes for easier steering. All this in addition to eliminating that annoying

declined steadily since 1955—the year when tubeless tires became standard equipment on almost all of the new cars.

Like A Built-In Service Station

New automatic lubrication system produced by Walker Mfg. Co., of Racine, Wisconsin, provides full time protection for auto's vital parts. Easily installed, it dispenses lubricant to the chassis each time the car is started. Similar to system found in some new luxury cars, Walker's inexpensive "personal grease monkey" helps prevent damage often caused by failure to have auto lubricated at proper intervals.

Dusenbergs, Ruxtons, and Pierce Arrows

Quite a few years have elapsed since the last of these famous cars came off the assembly line, but many of motordom's classics are making a comeback today. Classic car clubs have sprung up throughout the country and thousands of men are spending most of their leisure time keeping cars like 1930 Packard Roadsters in mint condition. Not only do many of these cars sparkle like new, their engines purr the way they did some 30 years ago. Quality products like Quaker State Motor Oil are protecting these beauties from the ravages of time and wear and tear. In fact, its often difficult to believe that some of the gleaming classics didn't come out of Detroit a few months ago. Quaker State is refined from 100% pure Pennsylvania crude oil, the finest crude oil in the world. Many classic car owners keep both their '29 Model T's and '61 T-Birds in top shape by using Quaker State Motor Oil on both.

ALUMINUM SIXES? Mum's The Word

Chrysler isn't saying much about it, but one of every ten 1961 slant-six engines will have a die-cast aluminum block. They look like, and have the same specifications as, those cast from gray iron. But they're more than 100 pounds lighter.

Model Garage



one of the men turns up at the Model Garage and apparently kidnaps Gus to make him fix the old car.

Stan gets a stunning surprise when he learns what it's really all about. And so will you when you read "Gus Looks into a Trunkful of Trouble"—in February's Popular Science.

FEATURE OF POPULAR SCIENCE

ARE YOUR BEST CUSTOMERS

big floor hump that's standard with front transmissions.



As they say in the Navy, this adds up to 4.0 rating for Tempest. 4.0 is Tops.

Flats At All-Time Low

Flat tires cause fewer breakdowns today than ever, reports the American Automobile Association. Significantly, says AAA, tire failure has

Leading Automotive Advertisers Appearing in February POPULAR SCIENCE

Firestone
Truck Tires

Quaker State
Motor Oil

Pontiac
Tempest Compact

AC Spark
Spark Plugs

Stewart-Warner
Fuel Pump

Walker Manufacturing
Lubricating System

Electric Auto Lite
Spark Plugs

Federal-Mogul
Engine Bearings

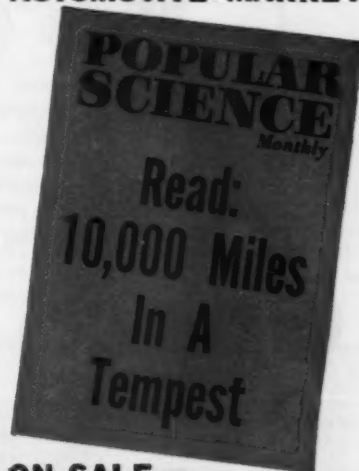
Champion
Spark Plugs

Electric Storage Battery
E.S.B. Activerter

Midget Motors Corp.
Midget Car

Warn Manufacturing Co.
Warn Hub—4-Wheel Drive

AMERICA'S FOREMOST AUTOMOTIVE MARKET



ON SALE —
AT YOUR NEWSSTAND

Body Shop Continued from page 59

repairs and twenty-four hour towing service.

Debonaventura moved into his new shop about two years ago. He had been in the body service business for approximately 13 years. Because of the facilities available to him for his activities, plus the large parking area adjacent to his shop, he felt that being located on

the far West side of the city was secondary to his primary requirements. Nevertheless, he wanted to make his location more identifiable to motorists. He did this by erecting a 78 foot tower. On the top has been placed a colorful neon sign. This can be seen from great distances.

Once a month, the shop runs a

special which has enjoyed unusual reception by motorists. This may feature a paint job, wheel alignment or brake special or a "package" special."

Monthly Specials

Each of the monthly specials are featured in the shop's general advertising program. Posters are located on the back of the taxicabs. Also signs are painted on the rear of the buses. A space has been left available on these signs which permit the addition of the monthly special. An arrow on each of these signs points to the monthly special. Then the particular item is placed here.

As an additional advertising feature, the four service cars and tow truck employed by John's Body Shop are continually sporting new paint jobs. This attracts attention to them as they move through the city. The colors of these cars usually tie in with seasonal occasions and holidays which make them more specific.

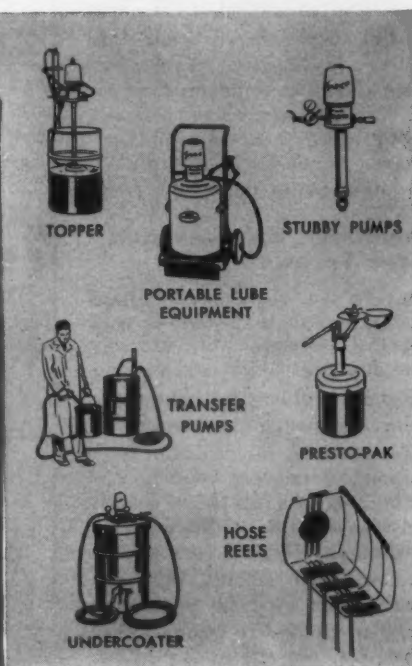
During other periods of the year, they are painted other bright colors. Debonaventura considers them "mobile billboards" with the name, address and location of his shop well identified on them.

Prior to St. Patrick's Day, the vehicles are painted a bright green and, for Easter, they are painted a bright pink. For the Fourth of July, they are painted in red, white and blue stripes and in other colors throughout the remainder of the year. Debonaventura estimates that he paints his four vehicles four to six times each year and that it more than pays him to invest the time and effort necessary to do this job.

"One of our most unusual advertisements has been a car with two front ends," points out Debonaventura. "We took two old coupes, of the same year, style, etc., and welded them together back to back—minus the portions located behind the front seat. Actually, the car operates in the usual way. Except it gives the appearance of two cars joined back to back."

"When driven through the streets or parked, it attracts considerable attention. Our name, address and location in bright printing on either side helps to identify our shop."

One way
or another,
each of these
significant
advances in
automotive
servicing
equipment
was either
pioneered or
perfected
by



GRACO

*"There is hardly anything in the world
that some man cannot
make a little worse
and sell a little cheaper
and the people who consider price only
are this man's lawful prey."*

RUSKIN

GRACO GRAY COMPANY, INC.
ENGINEERS AND MANUFACTURERS
275 Graco Square
Minneapolis 13, Minnesota

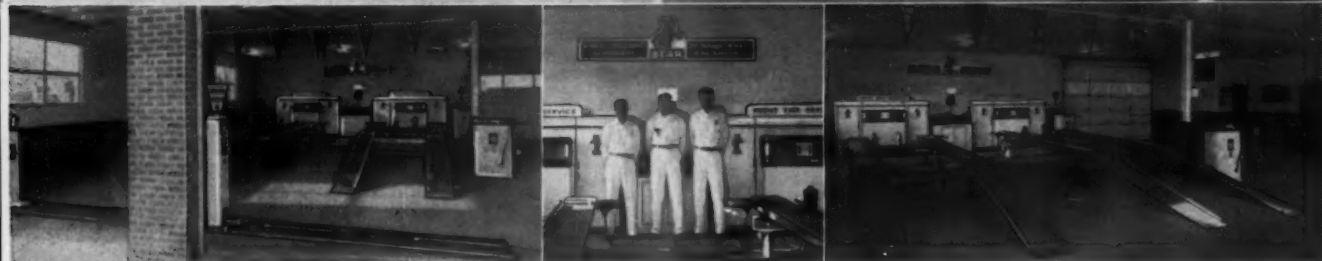
SEE PHONE BOOK YELLOW PAGES "LUBRICATING EQUIPMENT"
OR PHONE YOUR NEAREST FACTORY BRANCH

NEW YORK Ravenwood 1-8585	DETROIT Trinity 3-6900	ATLANTA Trinity 6-6374	CHICAGO Madison 6-7048
PHILADELPHIA Baldwin 6-3031	HOUSTON Capitol 7-1771	SAN FRANCISCO Market 1-5941	

Bear success formula WINS AGAIN!



Exterior of the Bennett's Shop in Bossier City, Louisiana. The building has been doubled in size since this photo was made. Note the business-building Bear Signs.



Customers drive over the 240 Scuff Testers when they enter the Bennett Shop. They are "sold" before they reach the Bear Alignment Racks and Telaliners.

Dave Bennett on the left, Chuck Bennett on the right and a brother-in-law, Huey Duncan in the center, wear white uniforms to match the clean, bright shop.

Bright, spacious shop with modern Bear Racks and TV-like Telaliner Units attract new business to the shop. Two Off-the-Car Bear Balancers increase brake business.

from "scratch" to \$45,000 gross in 10 months

Without previous experience!

* HERE'S THE STORY:

Dave and Chuck Bennett of Bossier City, Louisiana, are living proof that the Bear Success Formula works! *LOOK at what they have accomplished in less than a year:*

- ★ Netted 50.53% PROFIT—or \$22,600 in 10 months!
- ★ Grew from a 3-man crew to 6-man crew!
- ★ Doubled the size of their original shop!
- ★ Opened a separate heavy-duty truck shop!
- ★ Added a third Bear Rack and Telaliner Service!
- ★ Added a Bear Heavy-Duty Rack, a Truck Wheel Balancer and Heavy-Duty Drive-Over Tester!
- ★ Both attended the Bear School in Rock Island!
- ★ Do all work by appointment only!
- ★ Get all their business from Bear Signs and two Bear Drive-Over Testers!
- ★ Figure their expansion program will increase gross profit by one half, or \$6,700 per month!

See us at the I.A.S.I. Show
Booths No. 142-148

THE BEAR SUCCESS FORMULA WILL WORK FOR YOU, TOO!

Equipment is only part of the Bear Success Formula...included with every Bear Service is training for your mechanics in the proper use of Equipment—organized working procedures—business promoting signs and advertising materials and a unique system for expanding your services as your business grows. In Bear's "Success Formula" file are thousands of typical cases showing how shops of all sizes are making big money. These "Success Formula" stories contain countless profit-making and business-building ideas that you can put to use in your own shop. Bear will be glad to send you copies of these "Success Formula" Stories. Simply check the subjects in the coupon below in which you are interested, and mail TODAY.



MAIL THIS COUPON FOR LIVING PROOF THAT WHEN YOU
GO BEAR YOU GO RIGHT!

BEAR MFG. CO., Dept. M-10, Rock Island, Illinois

Without cost or obligation, send me the actual "Success Formula" Stories covering the following subjects:

- | | |
|--|---|
| <input type="checkbox"/> Wheel Alignment Services | <input type="checkbox"/> Frame and Body Straightening |
| <input type="checkbox"/> Wheel Balancing Services | <input type="checkbox"/> Heavy-Duty Truck Servicing |
| <input type="checkbox"/> Also include the new Bear Catalog | |

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Merchandising Ideas Continued from page 61

ment on the market. Just ask them about a tool or a piece of equipment. They will volunteer the information.

This new equipment can be made to produce new service income and speed up repair jobs. It will more than pay for itself. An investment in new equipment will also attract better servicemen to your shop or dealership.

Here's another way to increase

profits and improve working conditions. Check the arrangement of the testing equipment and other equipment used in the service department. New arrangements of equipment may eliminate bottlenecks in the shop and save in time and labor costs. Whenever it is necessary to move one repair job to another location, time is lost. Time is valuable. Try not to lose it in a poorly planned service department. Check-

ing over the total shop layout will reveal some changes that if carried out would increase efficiency. Each job should move through the department in a smooth and orderly fashion.

Be sure to offer your customers maximum repair services. Keep abreast of the times. Add new services where necessary to stay ahead of the competition. Your competitor moves in fast when you become self-satisfied with your shop's service. Remember that "extras" build service volume that will keep you ahead of the competition.

Does your shop or dealership have a continuing public relation program to attract new customers? Unless your improvements and extra services are brought to the attention of the people in your community they will not be producing to their maximum. Try drawing new customers in via newspaper, radio and TV advertising. The re-

Continued on page 116



this on Tungsten Parts means tops in ignition

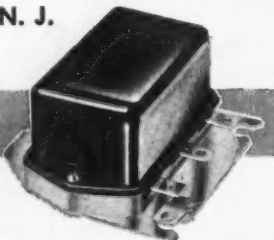
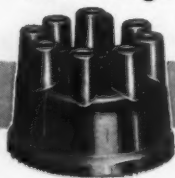
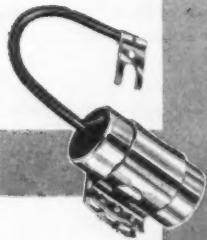
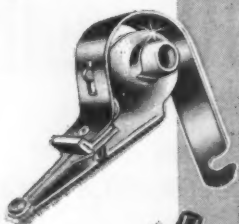
TUNGSTEN IGNITION PARTS have to be good before we brand them with a "T." It simply means that every feature in engineering and construction has been thoroughly tested and inspected. It also means that **TUNGSTEN** has employed specialized ignition skills that insure the quality of every tune-up job.

Jobbers and Servicemen have learned to rely on ignition parts that bear this famous "T." The next time you order ignition parts, be sure you specify **TUNGSTEN**. Look for the "T" because it means tops in ignition parts!

LET'S TALK TUNGSTEN!
BOOTHS 2631-32 AT
THE IASI SHOW IN LOS ANGELES

Write for Catalog

TUNGSTEN CONTACT MFG. CO., INC.
North Bergen, N. J.



"I like a mink market better than a bull or a bear!"

Stripped Threads . . .

Continued from page 114

shows this tang that must be removed.

With tang removed, cylinder head is then ready for regrounding or to be put back into service.

Thread insert coils have become so widely accepted that they are now being recommended by some of the car manufacturers. Because of the many varied sizes available, shops can now accept those profitable non-automotive jobs and increase their revenue.

NEW! Cordomatic® Reels

... FOR ALL AUTOMOTIVE APPLICATIONS
REQUIRING A LIGHT AND POWER SOURCE

All Cordomatic reels lock at any desired length... retract automatically... and hazardous cord conditions, promote safety, convenience. Cords are oil and grease resistant... heavy duty spring motors are dust-proof and life-time lubricated... pull-proof gravity action locking mechanisms.



NEW GARAGE LITE REEL "600W"—20-foot cord with shatter proof phenolic pistol-grip handle; power outlet in handle; built-in strain relief; swing open guard for easy bulb changing; heavy duty steel reflector; one piece hanger hook. Ceiling mounted for 360° rotation—wall mounted for 180° free swivel.

NEW PORTABLE JOB LITE REEL "600JL"—20-foot cord swivel permits complete lighting in any direction. Ideal for transmission work, lube jobs, body repairs, spot painting, brake work, engine work, etc. Built-in power outlet for power tools and appliances; snap open light guard for quick bulb changing—accommodates 150 watt flood, spot light or incandescent bulb. Hook on back of case permits wall mounting.

NEW PORTABLE OUTLET REEL "600PO"—take 3 electric outlets to your work area. 15-foot cord. Operates several power tools or electrical equipment. Use it under car, sit it on the fender, hang it on the wall—it can be placed anywhere.

WRITE FOR FREE LITERATURE describing other Cordomatic reel models for every use in all sizes and lengths. Cordomatic reels are used in garages, stock rooms, loading platforms, construction jobs, service stations, warehouses, etc.

Cordomatic®
1724 W. Indiana Avenue
Philadelphia 32, Pa.

ALL CORDOMATIC PRODUCTS ARE UNCONDITIONALLY GUARANTEED. UL APPROVED.
America's Leading Manufacturers of Automatic Cord Reels for Industry Since 1929

NOW... A New TIRE CHANGER with MORE POWER at LESS COST

★ **Air Power BEAD BREAKER** 5" OD cylinder provides power to break even tightest beads.

★ **Air Power WHEEL CHUCK** holds wheel securely between plate and top cone. Stays locked until you release it.

ONLY \$129.50



Handles 12-17½" wheels, operates from a regular air chuck. Bead breaker positioner, plated air cylinder, heavy steel floor base, built-on tool holder for Bishman Mount-Demount Bar that makes easy work of mounting and demounting the stiffest tires. BISHMAN NO. 881-AB Compact Tire Changer.

Ask your automotive equipment distributor for details, or write direct.

Bishman

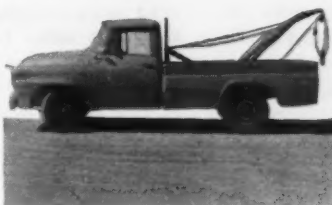
MANUFACTURING CO.
ROUTE 2, OSSEO, MINN.

MOTOR AGE • February 1961

HANDLE TOWING JOBS SAFER!

with a GADDIS Wrecker...Sling...or Dolly

The GADDIS WRECKER is designed to mount in pickup trucks and has 3 settings to accommodate 1/2, 3/4 or 1 ton pickups. It can be mounted and in operation in less than 2 hours... equipped with an electric driven winch, (5000 lb capacity), optional 6 or 12 volts. The battery in your truck drives the winch forward or in reverse.



Lighter...Easy to Handle



A rear view of the GADDIS WRECKER with the booms over the cab permitting the truck to be used as an ordinary pickup. Less than 2 minutes are required to put it in operation by 1 man and no tools are needed.

The GADDIS CAR SLING, constructed of a special nylon fabric, has a break strength of approximately seven tons. Using the adjustable quick hook-up with a ball hitch speeds up your towing for there are no pins, bolts or nuts to put in place. Strong safety cable instead of old style chain make the GADDIS CAR SLING lighter to handle.



Speeds up Jobs...Safely

Increased profits are yours by using GADDIS CAR DOLLYS as you have only 1 torsion tube to install in place of 2 tubes. Wheels are set out further than competitive models which permits carrying cars with flat tires or bent wheels without burning out dolly tires or denting fenders. High speed tires and 1½" axles in place of competitive 1" axles insure longer life.



Dealerships available in some areas. For further details and name of dealer nearest you... write

**GADDIS
MACHINERY COMPANY**

6th Street Road S.W.

Dept. MA

Cedar Rapids, Iowa

Merchandising Ideas Continued from page 114

turns will more than justify the outlay. Ads must be well written and presented. Be sure that your ad tells the reader about an item or service that you know he needs and wants. He'll not only go on to read the whole ad itself, but will follow its suggestions.

You will want your reader to identify goods and services with your shop, dealership or service station. Do your best to present the ad on a personal level. This means

that if you don't already have a unique trade mark or slogan, now is the time to create them.

You should also have a personalized name plate of your own. Its cost is reasonable compared with the benefits that will be derived from its use. It guarantees that your name will always appear in exactly the same type on all advertising copy. You should duplicate it on business literature, flyers, service trucks and any other adver-

tising media that you use from time to time.

What is being done to hold the regular customers? Keep a file on all customers. File should tell when the last repair job was performed. Make a monthly check of these customers by 'phone or card if they have not stopped in for services. If they have any complaints or are dissatisfied with the work done persuade them to return and give your shop another chance to make good. By keeping in touch with your customers you keep them from drifting away to your competitors.

new CAMPBELL-HAUSFELD PAINT SPRAY GUNS



Here's the truly complete line . . . bleeder and non-bleeder types . . . internal and external mix . . . pressure and siphon feed!

- Rugged lightweight alloy construction
- Balanced-comfort pistol grip handles
- Easy adjusting turn controls
- Adjustable spray width controls
- Simple cleaning and servicing

Offer 9 precision models ranging from Home Workshop type to Professional and Hi-Production Models. Write today for Bulletin SG 200!

The Campbell-Hausfeld Co., 207-B Railroad Ave., Harrison, Ohio

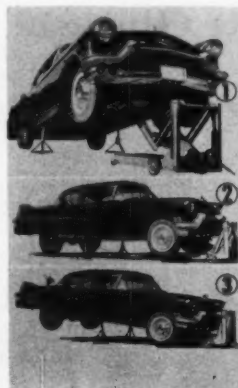
CAMPBELL-HAUSFELD



**BUY
U. S.
SAVINGS
BONDS**

Classified Advertisements

SALES REPRESENTATIVE: National, top-rated auto parts manufacturer and distributor is expanding business and needs capable traveling salesmen, age 25-46, to sell industry's most outstanding line of over 5,000 fast-moving replacement parts, assortments and kits. Earnings \$8,000 to \$10,000 first year, increasing every year. Paid vacation. Complete, in-the-field training program at company expense. All supervisory positions filled from within. No investment required. Write today giving full work history and background, Box 8, c/o Motor Age, 5601 Chestnut St., Philadelphia 39, Pa.



STOP PAYING FOR DAMAGED BUMPERS

Use a LEE Front End Lift

Lifts all cars by center plate between the A-frame or any stable cross member. Small . . . easy to handle. About 4' long . . . stores in 29 sq. inches.

1. Raises all four wheels with aid of two rocker-head stands.
2. No special adapters required.
3. By rocking front end down, rear is easily accessible.

AUTOMOTIVE EQUIPMENT MFG. CO.
Lynwood, California



**Flows freely
even at -40°**

**Cabot's
LUBRI-TASGON**

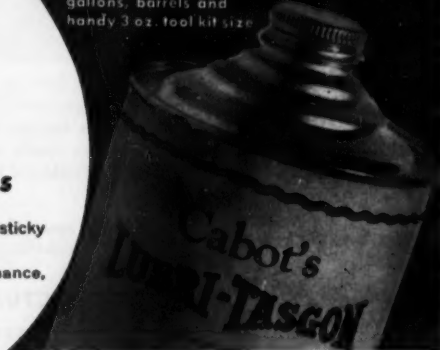
The Lubricant that Penetrates

- Greater Lubricating Power.
- Quickly loosens gummed up sludge, prevents sticky valves.
- Penetrates the tightest joints, bearings, fittings.
- Added to crankcase oil it insures smoother performance, quicker starting in cold weather.

Send for samples and prices.

SAMUEL CABOT INC.
294 South Terminal Trust Bldg., Boston 10, Mass.

Comes in pints, quarts, gallons, barrels and handy 3 oz. tool kit size





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THE LAST



LAFF



"What will they think of next?"

Free loading customer: "Mac, can you help a man in trouble?"

Mac: Sure. What kind of trouble do you want to get in?"

Success is relative—the more success, the more relatives.

When the fellow answered his telephone one evening a woman asked him if he had his television set turned on.

"Yes," came the answer.

"Is anyone else with you in the room?"

"Well, my wife is here with me."

"What are you listening to?" pursued the caller.

"My wife," came back the answer.

Many husbands are second story men—their wives seldom believe the first ones.

Then there's the one about the physician whose medical skill was far superior to the clearness of his handwriting. One day this physician sent out a written invitation to a patient asking him to spend an evening at cards and watching TV.

The friend did not show up on the day appointed. Nor was any explanation forthcoming of his absence.

A week later they ran into each other and the physician inquired whether he had gotten the note.

"Yes, indeed" was the answer. I took it to the druggist and had it filled—I feel loads better!"

Boss: "This is the end. You're fired!"

Worker: "Fired? I allus thought slaves were sold!"



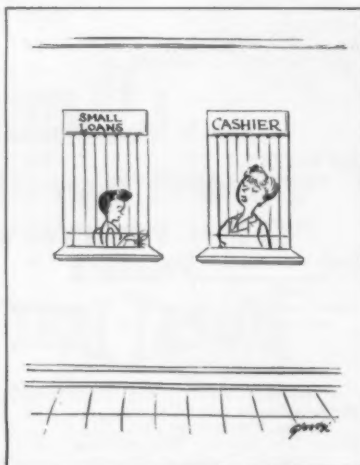
"I have one of those dual carburetors and I think it is suffering from a split personality."

No one can deny that a yawn may be bad manners—but at least it's an honest opinion.

A modern mother took her young son to the supermarket on a shopping tour. Trying to be helpful, the youngster picked up a package from the aisle and put it in the shopping cart.

"No, no, dear!" cried the mother. "Take it back where you found it. You have to cook what's in that package."

Perhaps the reason that the grass on the other side of the fence looks greener is that they take better care of it.





*"Last year we banked
an extra \$1024 profit
just by checking every belt!"*

**Says Aubrey Thompson, Aubrey Thompson Motor Co.
352 South Glenwood • Tyler, Texas**

"The way I figure it," Mr. Thompson explains, "the profit we make on every Gates Belt we sell is pure gravy. We're servicing cars anyhow, so it costs us nothing to look at the underside of the belts.



"Fact is, the extra load today's accessories put on fan belts makes it a 'must' to check this item on every car. With coverage of practically every car provided by the Gates Line, plus the Dial Finder and Display Rack to speed getting the right belt, we find it's only a matter of minutes to make the sale and install the belt.

**Replace belts
that are . . .**



"That's why I say that Gates Belt profits are pure gravy in my operation. Just by checking every belt we make 60 to 70 belt sales every month. That means, last year we banked an extra \$1,024 from belt sales alone. Gates Radiator Hose gives us gravy profits too — it's another good source of extra income."

"Go" Gates for Profit... Call your Gates Jobber today!

Your call will bring a factory-trained Gates Representative who will install attractive belt and hose displays, clean up your belt and hose stocks, and supply you with a complete set of Gates garage-tested sales aids. He'll also help you get your stock in shape for maximum profits without losing one penny on present stock.

The Gates Rubber Company, Denver, Colorado.



World's Largest Maker of V-Belts

Gates Vulco V-Belts & Hose





FOAM
IS
FINE
HERE

but
not
in a
**SHOCK
ABSORBER**

Whether in shaving lather or shock absorber fluid, foam is light and fluffy, practically without density. Yet, all shock absorbers rely on a piston working against a special fluid to cushion road bumps. When that fluid turns to foam, control turns to mush. Hop, skip and jump result.

Only new improved Columbus shock absorbers* fight foam full-time with patented revolutionary design. Check these few points of superiority. Then get the full story from your Columbus wholesaler and stock up today.

- | | |
|-----------------------------|----------------------------------|
| 1 Triple Strength Mounts | 4 Self-Cooling Single Tube |
| 2 "No-Fade" Fluid Reserve | 5 Exclusive Progressive Valving |
| 3 King-Size Working Chamber | 6 Silent, Rod-Protecting Bellows |

SEE HOW ORDINARY SHOCKS FOAM, FADE, LOSE CONTROL

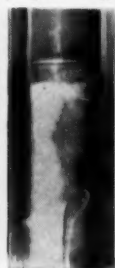
BRAND A
(Premium Duty)



BRAND B
(Heavy Duty)



BRAND C
(Regular Duty)



COLUMBUS



fight foam all ways with
COLUMBUS
FULL TIME SHOCK ABSORBERS

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